American
FORESTS
APRIL 1953 50 CENTS



CAREER FORESTER HEINTZLEMAN
NAMED ALASKA GOVERNOR . . . Page 8



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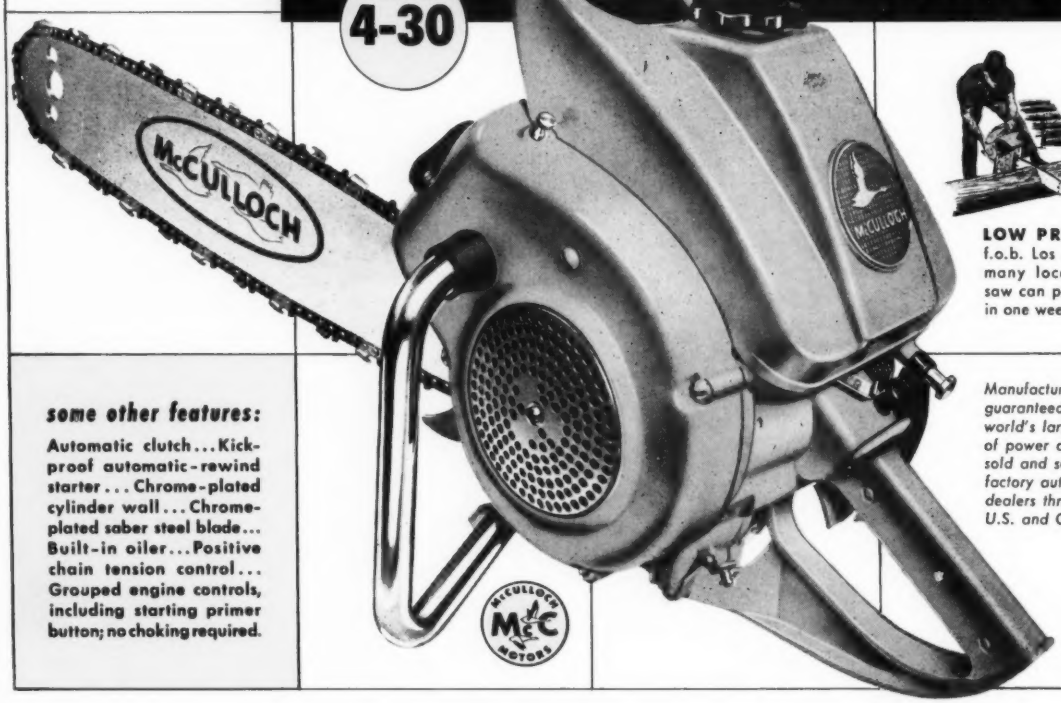
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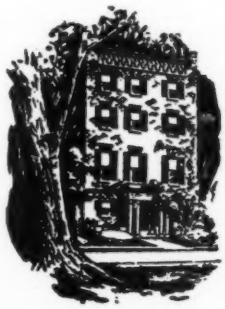
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Cover

Before the U. S. Senate gave unanimous approval on March 16 to the nomination of B. Frank Heintzleman as new governor of the Territory of Alaska, Senator Herman Welker, Republican of Idaho, made the following statement on the Senate floor: ". . . I regard him (Heintzleman) as a great and able man. It is my opinion that the Territory of Alaska will have taken rapid strides toward statehood when the nomination of such a distinguished public servant . . . shall have been confirmed." American Forests agrees and congratulates the Administration on the wiseness of its choice, the Senate on its affirmation. (Cover design by James J. Fisher, photo by Jack Rottier.)

Editor
James B. Craig

Assistant Editor
Keith R. McCarthy

Editorial Assistant
Dorothy B. Thompson

Art Director
James J. Fisher

Director of Advertising
Fred E. Hornaday

Advertising Representatives
George W. Stearns
420 Lexington Avenue
New York City

Harry W. Brown
333 North Michigan Avenue
Chicago, Illinois

The AFA

The American Forestry Association, publishers of *American Forests*, is a national organization—independent and non-political in character—for the advancement of intelligent management and use of forests and related resources of soil, water, wildlife and outdoor recreation. Its purpose is to create an enlightened public appreciation of these resources and the part they play in the social and economic life of the nation. Created in 1875, it is the oldest national forest conservation organization in America.

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LETTERS TO THE EDITOR

Insects and Disease

EDITOR:

On behalf of this Division and our Bureau, I am writing you to express appreciation of the editorial "Men with Microscopes" and the article "The Silent Saboteurs," which appeared in the February issue of AMERICAN FORESTS.

Coming from an organization strongly supported by forest producers and forest industries, these able discussions have special significance. They inform the producers and users on the seriousness of forest disease and insect losses. They also stress the urgent need for increased research and its application to bring these destructive enemies under control. To the agencies responsible for research, this impressive recognition of the problem on the part of the Association is most heartening.

Another forward-looking activity of the Association is the current department of AMERICAN FORESTS devoted to concise summaries of disease and insect problems, under the caption "AFA's Forest Clinic." As arranged in recent conferences with your managing and editorial staff, we have furnished contributions dealing with some forest diseases. Others are in preparation.

The interest shown in research and the constructive cooperation extended by the Association is of very material aid to all of us engaged in these undertakings.

Lee M. Hutchins
Head Pathologist in Charge
Bureau of Plant Industry
Beltsville, Maryland

EDITOR:

Al Hall manages in a most readable manner in the February AMERICAN FORESTS to tell about tree-killing pests now threatening our forests. This is in the article, "The Silent Saboteurs" for which AMERICAN FORESTS and the author are to be congratulated.

I was also pleased to read your fine editorial, "Men with Microscopes" and to learn from it that more articles on the very serious insect and disease situation will be published in the months ahead.

At the present time we haven't enough steam to tackle the forest pest problems in our woods throughout the land. You are doing a much needed job in getting the facts of this alarming situation before conservation-minded persons. Getting the facts understood will help in getting adequate research underway on forest pests as well as improved programs for their control. It would help to have these AMERICAN FORESTS articles well distributed.

Ernest L. Kolbe
Western Pine Association
Portland 4, Oregon

EDITOR:

I have just finished a quick examination of the February issue of AMERICAN FORESTS and I want to lose no time in telling you that I think it is splendid.

W. J. Damtoft
Champion Paper and Fibre Company
Canton, North Carolina

EDITOR:

I just finished reading the article, "The Silent Saboteurs," by A. H. Hall in February issue and enjoyed it very much. I say we need more reports like that. I operated a small gyppo mill in Montana before joining the U.S.A.F. and plan to go back to sawmilling when I get out. So let's keep the good work up.

In a way of suggestion, I would like to see you define in your magazine the more common timber pest and diseases so that the common man can learn to detect and perhaps in some way stop or at least help stop the spread of these timber destroyers.

If nothing more is accomplished than to help the people see that these pests, etc., are not above them, it will help a lot.

There are a lot of amateur entomologists and pathologists who need just a wee bit of urging to start off along this angle. I am thanking you again for a very good article and keep 'em coming. We here at MacDill AFB enjoy them all. How about including a review of some of the small stationary and portable sawmills on the market today.

A-1/C J. B. Sammons
MacDill Air Force Base
Florida

GOP Land Policies

EDITOR:

Congratulations and Amen on your piece "Traditional GOP Land Policies" in the February AMERICAN FORESTS. That plank in the Republican platform worried me a lot, and your historical and factual account of what GOP land policies actually were will certainly set the land-grabbing boys back on their heels.

Kenneth A. Reid
Whitney Industries, Inc.
Sabattis, New York

EDITOR:

I am one of the many AFA members who are grateful to Harris Collingwood for the fine service he has rendered the Association for so many years. His review of GOP Land Policy in the February issue of AMERICAN FORESTS is timely and valuable.

S. B. Detwiler
Boulder, Colorado

Letter from Alaska

EDITOR:

Your January issue of "Forests" is so interesting and I find "Washington Lookout" and "What's News Across the Nation" have so much to give for the time it takes to read it.

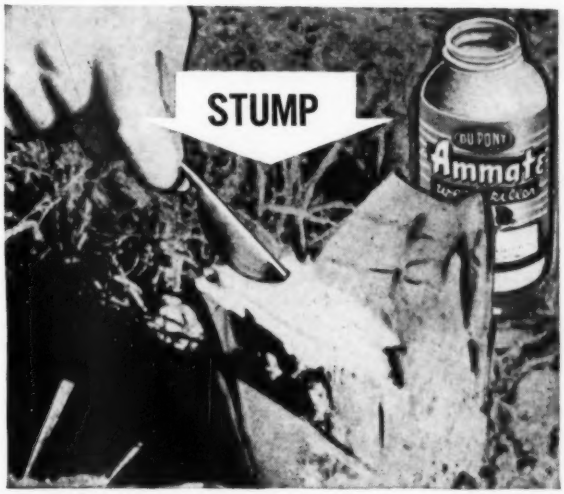
Your excellent articles on our new Secretaries of Agriculture and Interior gives one a feeling of our national neighborliness.

You are building character in America by your wonderful magazine.

Mrs. Fanny G. Joyce
Fairbanks, Alaska

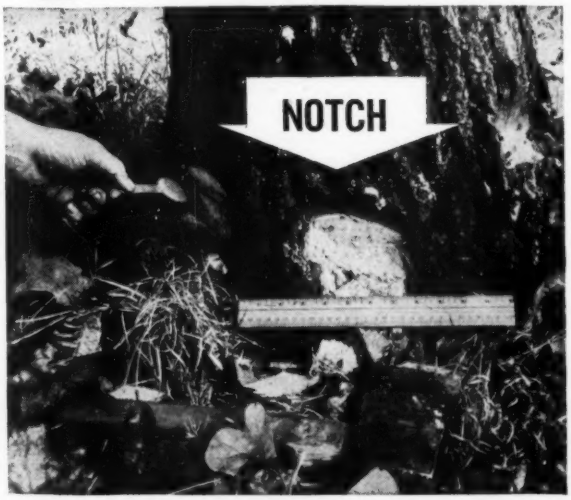
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Comments on AFA's Forest Survey Resolution

By Chris M. Granger, Retired Assistant Chief of The U. S. Forest Service

I WELCOME your invitation to comment on the resolution passed by the directors of The American Forestry Association on January 30 relating to the national forests, which appeared in the March issue of AMERICAN FORESTS.

This resolution—which has been presented to the Secretary of Agriculture — would be timely with respect to present and potential threats to the integrity of the national forests were it not for its concluding two words — "or eliminations." The adverse potentialities of these two words would, I suspect, cause the founders of The American Forestry Association, who had so much to do with the creation of the national forests, to turn over in their graves.

There are two serious flaws in the resolution. First, it is *not* in accordance with the "Program for American Forestry" as the second paragraph of the resolution implies; and, second, the threat to the public interest inherent in the last two words of the resolution makes this portion antithetical to the laudable first paragraph and introduces a feature which could play right into the hands of those who have in effect advocated the dismemberment of the national forests.

As to the first count: The "Program for American Forestry" proposes "a state-by-state study of the desirable relationship between federal, state and private ownership, with a view to mutual understanding and agreement among all classes of forest owners as to *further federal or state acquisitions.*" This proposal is repeated twice, in substance, in the Program, but not a word is said about any *eliminations* from the national forests; the whole purpose being to guide further *acquisition.*

That this limitation was intentional and fully understood is amply supported by the record. Before the convening of the American Forest Congress in 1946, called by The American Forestry Association, the directors of the Association were presented a report by members of its staff which included proposals for passing national forest lands to private ownership. One proposed plank in the suggested Program called for "a thoroughgoing study of federal public land policies and administration, including the relationship between federal, state and private ownership, with a view to the adoption of a comprehensive policy governing the *disposal,* reservation, acquisition, and administration of nonurban federal lands." Another recommendation read "Ownership of recaptured forest lands should remain fluid, where conditions are favorable for eventual movement into private hands; public ownership, whether state or federal, should be of a custodial nature, subject to later relinquishment."

Both these proposals were vigor-

(*Turn to page* 46)

By Leo V. Bodine, Executive Vice President, National Lumber Manufacturers Association

UNCLE SAM is our biggest single operator in the business of tree growing. In the 48 states he owns and operates over 91,000,000 acres of commercial timberland, on which stands nearly 40 percent of the volume of all trees large enough to make lumber. In Alaska he owns more than 99 percent of the timberland. And he even owns 33,000 acres in Puerto Rico.

The administration of timberlands by the government is big business, costing millions of dollars each year and employing thousands of people. In no other sphere of economic activity, except perhaps for reclamation and power, has the government gone further in the ownership and commercial management of property.

The federal forests in the West are largely composed of public domain lands which, around the turn of the century, were reserved from further private appropriation. In the East they largely comprise lands which were purchased from private owners. The Congress through many enactments, and succeeding Presidents through many proclamations and orders, have established these forests. They were an expression of concern existing in earlier years that only the government could provide suitable management of areas considered important for timber production and watershed protection.

Private forestry enterprise has proven in the last few decades that this early apprehension was unwarranted, that it can do as good a job or better than the government, that the federal forests are impeding the development of private forestry in many areas, and that it is now time to take a careful look at the constantly increasing influence of government in the competitive field of timber production. Industries dependent on forest resources must not be pauperized by continued governmental encroachment on their land and resource base.

Thus, the increasing ownership of timberlands by the government has become a major problem facing the country. If private forestry enterprise is to continue and expand, this problem must be solved by retaining in private hands as much as possible of the land which is the base of our tax structure and private enterprise economy, and by returning to private ownership those lands that in the public interest are found to be most suitable for private ownership and management.

Many organizations and individuals seeking a solution, have given the problem thought. The American Forestry Association in 1946 recommended state-by-state studies of the desirable relationship between federal, state and private ownership of forest land. The For-

(*Turn to page* 46)



By ALBERT G. HALL

TRANSFER OF THE BUREAU OF LAND MANAGEMENT FROM INTERIOR to Agriculture was reported imminent in Washington in mid-March. The Washington Post on March 19 reported that Marion Clawsen, director of the Land Management Bureau since 1946, has been relieved of his post. A Civil Service career man, Clawsen can expect Interior to make him "a reasonable offer" of a new post in 60 days.

HEARINGS HAVE BEEN HELD ON THE BAKER BILL, H.R. 1972, which proposes earmarking ten percent of national forest receipts as an automatic appropriation annually for wildlife and recreational facilities within the national forests. The bill is an improvement over the several such measures that were introduced in the 82nd Congress. Representative Baker of Tennessee eliminated the possibility of the use of such funds for land acquisition, and placed a ceiling of $5.5 million on the amount that could be diverted from receipts in any one year. Similar bills have been introduced in the Senate by Senators Watkins of Utah and Anderson of New Mexico. While the new bills answer some of the objections to the earlier ones, they still provide means for indirect and automatic appropriation of receipts without annual justification before the appropriations committees and action by the Congress.

IT WAS THIS UNSOUND BUDGETARY PRINCIPLE THAT formed the basis of the opposition expressed at the hearings. The American Forestry Association, through its forester, George A. Duthie, raised the question of this principle in his testimony, as did representatives of several other groups. However, the Baker Bill was well supported by a number of organizations whose representatives were in Washington at the time to attend the North American Wildlife Conference. The favorable testimony in behalf of adequate support for wildlife and recreation, presented by AFA and others, will have an effect on the consideration given these aspects of forest management in the regular appropriation bills—even if H.R. 1972 is rejected as was its predecessors.

APPROPRIATIONS FOR THE FIELD OF CONSERVATION, like those in other areas of government activity, will be reduced below the "Truman Budget." The new "Eisenhower Budget" has caused both the Department of Agriculture and the Department of the Interior to cut deeply into earlier estimates. For the most part, the reductions have been made by the agencies concerned, without dictation from the White House as to which particular activities were to bear the heaviest burdens. Details of the cuts are not yet made public, but they can be expected to be sharpest in those activities that do not contribute to the effective protection and management of federal lands.

SOME OF THE OLD TIMBER AND STONE LAWS applying to the utilization of the public domain in the early development and disposal of public lands are destined for disappearance from the federal code. The laws were made obsolete by the passage of the Materials Act in 1947 and the Isolated Tract Act in 1934. A bill to repeal the old laws, H.R. 1816, has passed the House.

(over)

BIG BEND NATIONAL PARK IN THE STATE OF TEXAS came a bit closer to completion with the recent passage, by the House, of H.R. 1527, to authorize the acquisition of 8,800 acres of non-federal land within the park boundaries. The park now comprises 699,000 acres of land purchased by the state and donated to the federal government. State funds are not available for purchase of the remaining interior holdings. An identical bill was passed by the House in the 82nd Congress, but the Senate did not have an opportunity to act on it before adjournment.

MANAGEMENT OF THE NATIONAL PARK SYSTEM, including miscellaneous areas administered by the National Park Service, will be facilitated by the passage of H.R. 1524. This is an omnibus bill including a number of minor authorities, among which are provisions for rendering emergency services in areas adjacent to the parks, the construction of fire protection facilities, water lines and telephone lines, acquiring rights of way, operating equipment repair shops and providing services for concessionnaires and cooperators. In most cases, the activities to be authorized would be reimbursable or money-saving. The bill has passed the House and now awaits Senate action.

BANKHEAD-JONES LAND MAY BE RETURNED TO STATE or private ownership, depending on which of a series of bills for their disposal is passed. The lands were acquired as sub-marginal under the Bankhead-Jones Farm Tenant Act during the 30's, and have been held by the states under lease from the federal government. Three bills have been introduced: H.R. 557, by Representative Poage of Texas, would allow for the sale of tracts which can provide an economical operating unit for a farm family; H.R. 981, by Representative Bailey of West Virginia, proposes the transfer of forest lands to the states upon application by the states; and H.R. 1864, by Representative Whitten of Mississippi, would authorize the sale of the lands at market value under terms and conditions to be set by the Secretary of Agriculture. The proposals are not new, but it appears that their chances of receiving action are much better than in the previous administration. Hearings have not yet been scheduled.

TRANSFER OF FEDERAL FOREST LAND TO PRIVATE OWNERSHIP as reimbursement to owners whose lands are inundated by federal dam projects, the proposal of Senator Cordon of Oregon (S. 85), has been introduced also by Representative Harris of Arkansas (H.R. 3170). In a more far-reaching bill, H.R. 3535, Representative Ellsworth of Oregon does not limit the consideration to dam projects alone. Mindful of the acreage of high-production forests cleared for rights of way for federal power lines, he proposes payment in kind for any forest land acquired for any purpose when the acquisition would interfere with sustained-yield management of private lands.

FEDERAL TIMBER SALES POLICIES, both of the Department of the Interior and of the Department of Agriculture, are the subject of a study being made by the General Accounting Office. Now being completed, the investigation is seeking to determine mainly whether the policies are such as to assure the federal government of the best financial return. The policies governing timber sales are laid-down, at least generally, by acts of Congress. In some instances, however, the intent of the law is primarily to provide for conservation or for community stabilization—as in the case of sustained-yield units and marketing area limitations—rather than for the greatest dollar-return. It is not anticipated that changes in these basic concepts are in any particular jeopardy, although they may have to be defended as being in the public interest or on the basis of long-term rather than short-term dollar-return.

RESOURCES FOR THE FUTURE, INC. will hold a meeting of its committee of advisors this month to lay plans for its natural resources conference in the fall. President Eisenhower has assured the group that he will be present to welcome the delegates to the conference unless important affairs of state interfere. It is understood, however, that the conference will not be "White House-sponsored" as was originally hoped. Don P. Johnston, president of The American Forestry Association, will serve as a member of the widely-expanded advisory committee.

EDITORIAL

ROADBLOCK TO TIMBER LOANS

A cheering development in forestry in recent years has been the increasing number of bankers active in promoting sound woodland management in their respective communities. Bankers are invariably key men in their communities. Their recommendations carry weight. From the standpoint of forestry, no keener-minded, responsible group of enthusiasts could be found to espouse its cause.

One disheartening element exists, however, in this new enthusiasm of bankers for scientific forestry. It lies in the fact that more and more of them are finding themselves in a contradictory position when they have to tell prospects, "Yes, I'm personally convinced your tree farm is a good collateral for a loan but, no, I can't loan you money because the national bank laws prohibit it."

Roadblock in the business is a ruling made in 1948 by the Comptroller of the Currency. It states: "Standing timber ordinarily constitutes real estate, and since neither timberland nor timber is rated as *improved* real estate, loans secured thereby are prohibited by Section 24."

To many bankers and foresters, this ruling of the Comptroller just doesn't make sense in the light of good management conditions on more and more woodlands today. How can a stand of trees that produces a cash crop every few years and steadily improves itself in the process be labeled as "unimproved," they ask? Today, timber is a crop, they declare.

Bankers of this school of thought have plenty of support. Mortgage loan experts in three of the largest insurance companies in the world recently came to the same conclusion. Moreover, they took action. Today, these three firms are making long-term loans on well-managed woodlands. It's a multi-million dollar business already. Now, some of them are telling the bankers in effect, "If you people can obtain the necessary ruling from the Comptroller, our timber programs could be handled under the Approved Mortgage Plan the same as form loans." This means that the banks and insurance firms could work together in initiating woodland loans and processing them on either a short- or long-term basis as desirable.

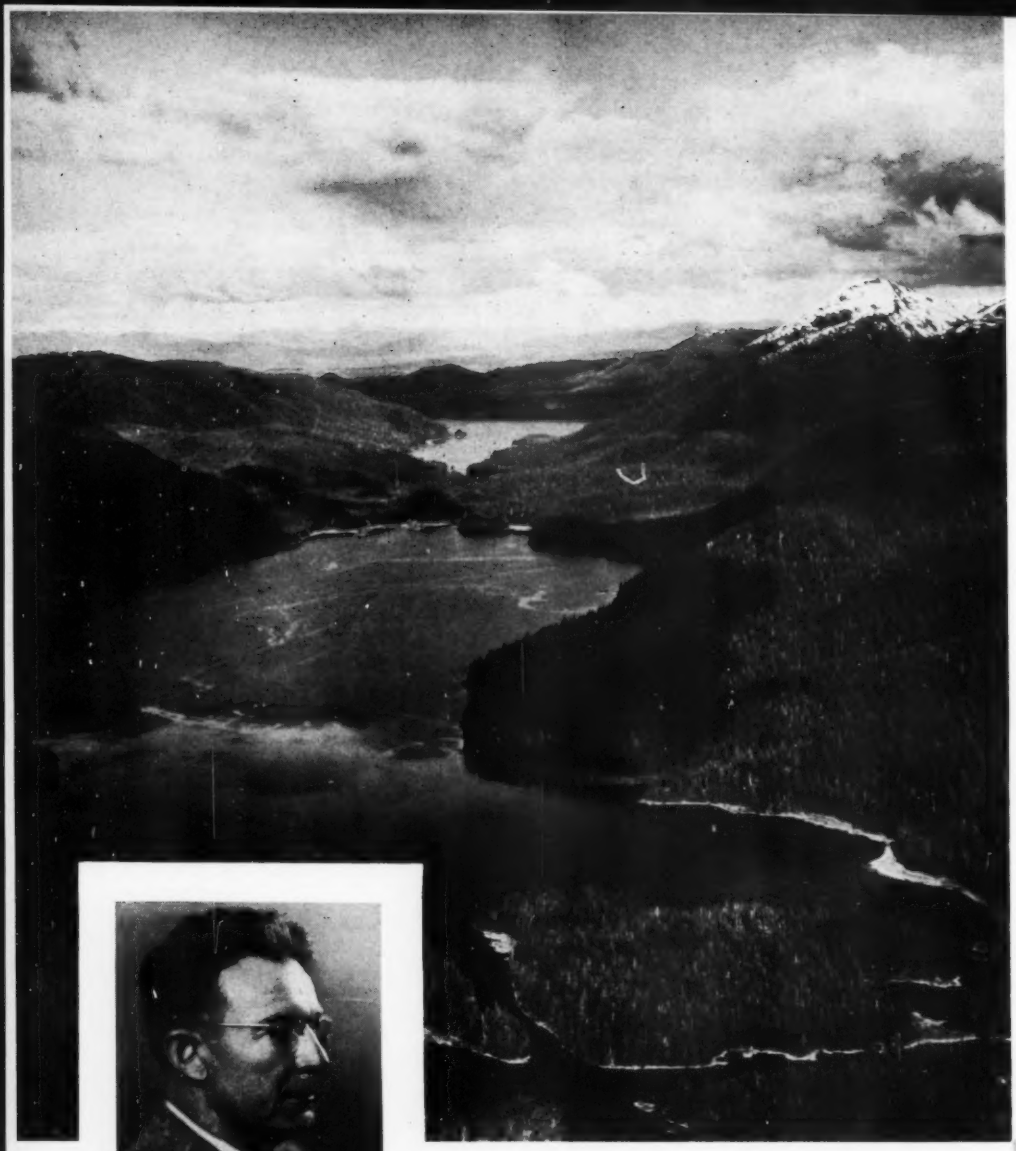
Last month the bankers took action, too. In a move spearheaded by the Oregon Bankers Association and the Western Forestry and Conservation Association, a conference was held with the acting Comptroller to see what might be done about relaxing a ruling that still regards improved woodlands as unimproved. Marshall N. Dana, of the United States National Bank of Portland, and Stuart Moir, of the association were leading lights at the conference. Carroll Gunderson was there pledging the aid of the American Bankers Association. Senator Guy Cordon, (Rep. Oregon) offered his assistance in working up statutory changes required for hearings before the House Committee of Banking and Finance. Not present, but there in spirit, were foresters everywhere who have had much to do in paving the way for a meeting of this type.

Not all the details for working out required statutory changes were resolved at the conference. A number of questions remain to be answered. These include: Should the loans run for two, five or ten years? Should the loans be 40 or 50 percent of the appraised value? What figures are most appropriate for maximum maturity, percentage of appraised value, and aggregate limitations? It is almost certain that strong safeguards to protect banks from overextending themselves will be insisted on if the present ruling is relaxed.

Important from the standpoint of forestry, however, was not the number of problems encountered but the fact that the climate was favorable and that all concerned took a constructive view. A good start was made. Also significant, is the fact that a conference of this nature was held in the first place. For years, woodlands have been lumped in the same general investment category as "pastureland," or worse. As recently as 1951, Luther Gulick, in commenting on the dearth of woodlands credit, said, "Those who grow trees for the future must do so at their own risk and with their own capital."

That is now changing. This reflects great credit on the forestry profession as a whole. For years, foresters fought the battle of good forestry alone. It was often slow business. They were often jeered at as "visionary." They were called "impractical." Today, they find themselves working shoulder to shoulder with some of the most practical people in the world, namely, bankers and investment people. They are talking the same language. This means that the drive to extend good forest management can now be pressed from a number of directions at once. It spells out progress. It augurs well for the future of good forestry.

The "visionaries" of 40 or 50 years ago, it seems, had considerable vision after all.





Terrain and pulptimber typical of the Tongass National Forest

By KEITH R. McCARTHY

THE STEWARD OF "Seward's Folly"

Career Forester B. Frank Heintzleman, an Alaskan by adoption since 1918, is territory's new governor



MANY men have courted Alaska. Some have found her fabulous favors too hard-won and have come away disillusioned. Others, the seekers after quick riches, the gamblers, the adventurers, have turned her head briefly, but then passed on after a giddy, transient flirtation. A few men, those who learned to know her as more than just the wild lady of the north, have had an enduring affection for Alaska. They have seen her through the stresses of a turbulent youth and she has rewarded them by developing into responsible young adulthood.

One such man is B. Frank Heintzleman, recently appointed as new governor of the territory. Long known as "Mr. Alaska" among colleagues in the U. S. Forest Service, Career Forester Heintzleman wears the title well, if modestly. An Alaskan by adoption for 35 years, he is perhaps better informed than any man on the history, resources, people and potential of this bountiful and strategic land once known as "Seward's Folly."

When Frank Heintzleman first went to Alaska in March of 1918 it wasn't for glitter or gold. He was transferred there from a Forest Service post he had held in the Pacific Northwest for eight years after his graduation from the Yale School of Forestry. His new job was to supervise production of "airplane spruce" for use in building U. S. and British war planes in the waning months of World War I.

What the young forester saw in 1918, just 51 years after the U. S. had purchased Alaska from Russia for a bagatelle of $7,200,000, was a land of fewer than 55,000 people, and that number was temporarily dwindling. Many Americans in the territory at about that time had joined the military service. Few of them returned. The cry of gold was beginning to ring false and the mining industry was fading. Alaska then was still an outpost, remote and difficult to reach. Travel, mainly up the 1000-mile Inland Waterway from Seattle, was slow.

But Heintzleman liked what he saw, and time was to prove that he saw more than what appeared on the surface. To a man who preferred the big country where "everything isn't card filed and cross indexed," Alaska was the answer. Though he still sometimes refers to himself as a "Pennsylvania Dutchman" in deference to his birth in the Quaker State, Heintzleman has had his roots in Alaska since that first moment. Except for occasional "the-briefer-the-better" business trips he has left the territory only once in the last three and a half decades. That one interruption was in 1934-35 when he served in Washington, D. C. as director of the forest conservation activities of the National Industrial Recovery Administration.

Alaska's new governor has been Regional Forester of the territory since 1937. While this has been his principal "official" title since that time, to say that managing 20 million acres of Uncle Sam's forests has been his only job would be an understatement of considerable proportions. Heintzleman also has been serving as Alaskan representative of the Secretary of Agriculture. He has been general director of the Agriculture Department's six bureaus there and has been particularly active in agricultural research branch. In addition he has directed the study of water power resources of southeast Alaska, has been representative of the Federal Power Commission in that section of the territory.

As a member of numerous federal and territorial boards and commissions and as one of Alaska's chief negotiators with private industry, he has become well acquainted with most, if not all, of the territory's problems. He was coauthor in 1937 of the report, "Alaska Planning," issued by the National Resources Planning Board and organized and was first chairman of the Territorial Alaska Planning Board in 1939-40. He also has been active in civic affairs, one of his pet projects being the Juneau Library Association which serves 20 cities.

Acting in these various capacities has provided Heintzleman with an excellent background for his job as

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Historic and picturesque Sitka once was capital of "Russian America"



After Four Years, the Same Old "Pitch" Man



They Still Covet Our Lands

By ARTHUR H. CARHART

FOUR years ago, conservation-minded citizens believed they had won a battle; the "Great Land Grab" scheme of certain western livestock interests had been smothered under public indignation. True enough, that battle had been won—but the campaign hadn't.

They're at it again—the little clique within the western livestock industry that whipped up the old land grab has drawn up a proposal for legislation they call the "Uniform Federal Grazing Land Tenancy Act."

Familiar names appear as proponents of this legislation; the cast contains many of the actors who played their part in the old land grab show. The script has been rewritten, but the basic plot is not greatly different. The objective still is to put certain, privileged livestock operators on top in management of our western public lands.

Strange and significant reports have leaked out of recent meetings of the stockmen's organizations. Rank and file members, solid, clear-thinking ranchers are standing up and saying they're sick and tired of the politicking and scheming of alleged "leaders" who are behind this new attempt at dominating public lands. There, in full truth, is the voice of the majority speaking; the majority of our western stockmen who are clear-sighted, forthright and in a vast number of cases, genuine conservationists. They are for sound, balanced use of the natural resources we all own.

Don't ever blame western stockmen as a whole for the renewed plotting against our public lands. They merit no blanket condemnation. It's the little gang that holds a tight grip on the organizations, representing that they speak for all stockmen that are responsible for the land grab promotion. And they're a tough outfit to whip.

As they presented the old land grab in the late 1940s, these gents were frank and outspoken. They proposed that Congress should pass a law which would give an exclusive, monopolistic privilege to those holding grazing permits on the public estate to buy the area those permits embraced. The price to be paid would have been from a few cents to a few dollars per acre, with 15 years in which to decide on whether or not to buy, 30 more years to pay out the purchase price, one and a half percent interest on any unpaid balance.

It was a naked, raw, bull-headed sort of a program; a gigantic move to sell out the public that owned these lands. It was slapped into limbo as the citizens across the nation learned what was brewing.

Unquestionably, the stockman clique who engineered this earlier proposition were dazed by their defeat. In times past they usually had gotten whatever they demanded. They probably smarted from the sound licking they got.

So they set out to prove their rangeland regency. The owners of the public lands, the poor blokes, who had so roughly upset their applecarts must be shown the cowboy still is high man out west.

For about three years this group has been reforming its lines, plotting its course, preparing this legislation that has the important-sounding title of a "Uniform Federal Grazing Tenancy Act." And they've done a slick job.

A smelly "public lands" plank that could be interpreted as a pledge to hand over these properties to stockman control was noodled into the Republican platform. There is the suggestion of a pattern in the placing of officials and such in key spots that could be roped into helping the cowboys put over their "act." The Honorable Frank A. Barrett, who piloted the notorious junket of a House subcommittee holding "hearings" on public lands throughout the west in the Great Land Grab days, now has been elected Senator from Wyoming. In his former capacity as Representative he was The Big Voice for the stockmen's coterie; they think he's marvelous. Without the design as yet revealed, there is a strong suggestion that the right people have quietly been installed at the right spots to help jam the "act" through Congress. We'll see, as the plot unfolds, who the "friends" may be.

Now, let's examine the "act."

The proposed act in its latest published version, an artful brochure printed in two colors, states that provisions in the text will apply to the "National Forests and Federal Grazing Districts . . .," and certain "Bankhead Act" lands in the west. But the crux of the matter is, the actual target is the U. S. Forest Service and the national forests.

The stockmen are fairly content with the way the Federal Grazing District, the "Taylor" lands, are now handled. When the old Grazing Service was set up, its staff of able-range management men held the heretical belief it was their job to

They've rewritten the script, but the plot's the same in this latest assault on the public domain

rehabilitate the lands and forage in their charge. Such "bureaucratic dictation" could not be tolerated by some important gents grazing their private stock on those lands.

So the old Grazing Service was gaffed and gutted by the neat technic of cutting down appropriations. It was so enfeebled the practical situation on the "Taylor" lands today is that the local "boards," made up of those operators who graze their stock on these lands, determine what shall be the use program.

One of the pet pronouncements of the orators pleading the case for this new draft of their legislation is that here on the "Taylor" lands is a model for management and administration that would work beautifully if extended to cover the national forests. And, in essence, this new legislation proposed would go a long way to set up that sort of land-use planning and policy on the forests.

If one reads the proposed legislation without being sharply analytical, there is the impression that it contains logic, holds no threats to our public properties and could be good law. If read carefully, the jokers pop out.

There is a general characteristic as exemplified in this proposed bill that should be emphatically blasted. This is the suave inference that the grazing of domestic, privately-owned livestock on our public lands is the foremost, most important, unquestionably predominant use of these properties. The proponents of the bill blandly assume this attitude—and expect the public to accept it.

Only some 80,000,000 acres of the 136,000,000 acres in national forests in the western states are covered by grazing permits. The forage areas are intermingled with other types of forest cover. Livestock secures feed from these areas on the average only some 60 to 90 days each year. Less than one percent of the cattle-feeding days in the nation are derived from forest ranges; about two percent of the sheep-feeding days in the country are secured there. Grazing in the national forests is actually a relatively minor segment of livestock production even in the 11 "public lands" states.

By no conjury or juggling can this fallacy that livestock grazing in the forests is the most important use be ballyhooed or distorted into fact.

The proposal for the law now advanced is a smooth, plausible, insinuating bit of writing. You have to think-out just what might be the results if it were passed by Congress.

Let's look at some of the sections in this text.

Section six spells out who shall be issued permits to graze stock on public lands. In practical application it would "freeze" the right to hold permits to those now having them. It makes this mandatory; it says the secretary *shall* issue those permits. The permits could be issued for a ten-year term. In a considerable degree this ties a *permit* to graze on our public lands, to specific properties; has the color of making a permit a *part* of that property.

There's a jolly joker in this section. It provides for the leasing of a ranch layout to which a permit is tied, and permits would remain in force. Let's see how that might work out.

A Wyoming rancher owns a big ranch and holds a permit for considerable grazing privileges on our public lands. He has been a bona fide operator meeting present requirements for eligibility as a permittee. But he'd like to take it easy. He could under this law.

He sells his own stock. He leases his outfit to a fellow from Texas. The ranch owner pays between 50 and 60 cents per cow per month to run his animals on the forest. The open-market price per cow per month to run his animals on the forest. The open-market price per cow per month grazing on private pasture is $2 or more. The rancher can get that from the man to whom he leases his outfit. He may similarly lease at $2 per head his permitted range on Taylor lands where the per cow, per month fee is even less than on the forests.

Lessor hits for California to enjoy the $1.50 per cow per month profit he's garnering on the "resale" of public lands grazing. Lessee is in there to get all he can out of the range. He does without regard on his part to damage due to overuse.

Such shenanigans could become law under Section six.

Section seven is another "freezer." In the past the Forest Service has made cuts in the number of head of stock permitted on an allotment identified with a ranch when that property changed hands. Such cuts were regarded as necessary to protect other forest land values— watershed, timber, soil, forage, recreation, wildlife.

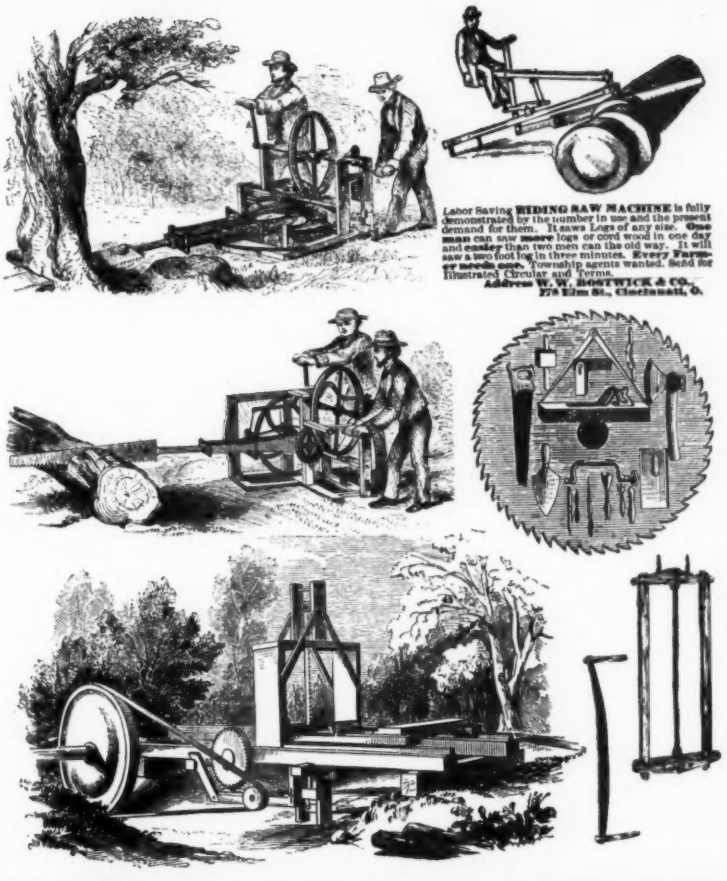
Section seven would make it mandatory to issue the new owner of a

(*Turn to page* 34)

Gully erosion like this is result of extensive over-grazing
USFS photo



THE SAW



By CREIGHTON PEET

HISTORY OF FOREST TOOLS

PROBABLY the first tools used as saws were long pieces of flint chipped so as to have a series of teeth. Such tools have been found, and so have some in which many small pieces of flint were fitted tightly into a stick. These last were found in the bottom of a lake in Switzerland, where men lived thousands of years ago in houses built on pilings to be safe from animals and enemies. In what is now Mexico primitive people made similar saws with bits of sharp volcanic glass, and in the South Seas they used shark's teeth.

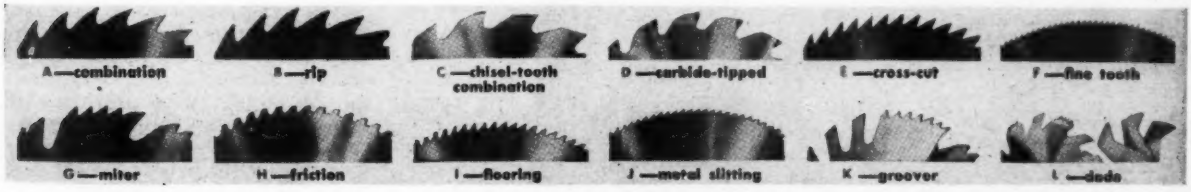
The ancient Egyptians had the first metal saws, of copper and bronze, and made boards and even plywood with them. At first glance they look very much like our saws, but they differed in one very important detail. They didn't have any *set*.

Set is the term used to describe the way the teeth in a saw are bent so that every other one will stick out a little to the right, or to the left. You think of the teeth on your modern steel saw as straight and even, but actually each one is twisted a little one way or another. The result of this *set* is that the *kerf*, or slot the saw makes in the wood, is always a little wider than the width of the saw blade itself, so that the blade can slip back and forth easily. If the kerf was just the same size as the saw blade, it would be bound to stick. To make their saws work the Egyptians must have used lubricants and wedges to expand the kerf.

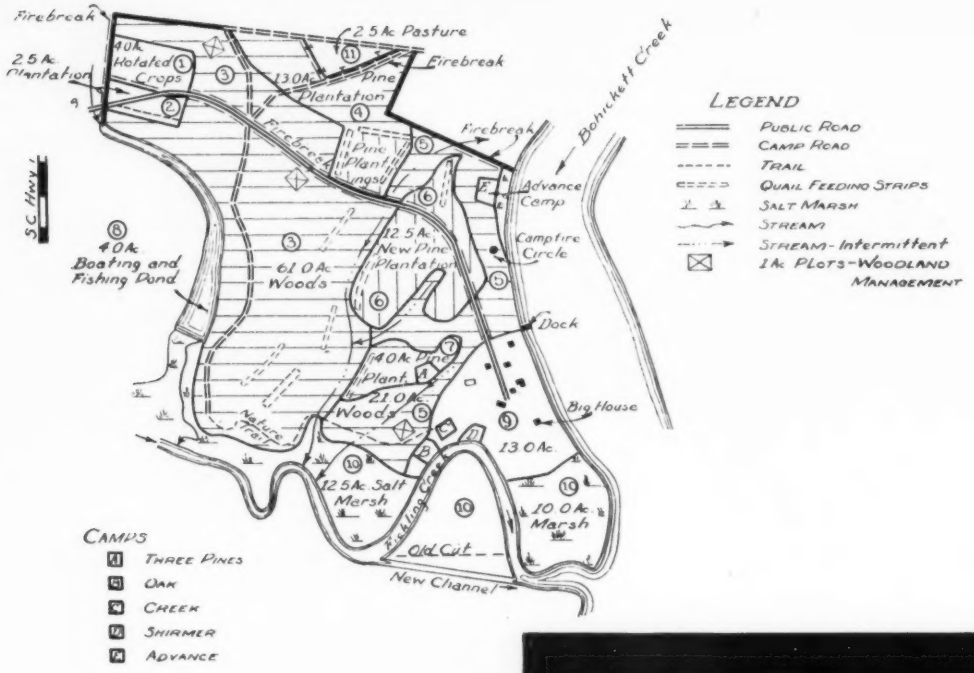
Saws were first important as tools with which logs could be cut up into boards, but since there was no mechanical power, for thousands of years all boards were sawed out by hand.

All over the world this was done in pretty much the same way. The log to be cut up, was held in a framework. The topman as he was

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CAMP HO-NAN-WAH OF BOY SCOUTS OF AMERICA



CONSERVATION



SOMETHING new was added to Boy Scout camping when the Coastal Carolina Scout Council, with headquarters in Charleston, South Carolina, launched its conservation program recently. Through a combination of the features of a farmers' field day and a county fair, Scouts and leaders not only learned at first hand the need for the intelligent management of forest resources, but they actually carried out conservation practices on the land.

The idea for the unique conservation camp project—a community forest—started when the Council Executive Board approved the conservation plan for its 162-acre campsite and thus became a co-operator of the Charleston Soil Conservation District.

The campsite, formerly part of a large plantation, now is largely covered with trees. Although part of the area is suited for cultivated crops or pasture, obviously such activities would conflict with the primary use of the land-Scout camping. But growing trees does fit in with camp-



Exhibits give Scouts insight into conservation's meaning



"Learn to do by doing," is a good rule in tree planting

Camporee

By TED S. PETTIT

ing, so the largest part of the conservation plan calls for the management of the forest to produce some cash income for camp maintenance; lumber for new buildings; wood for fuel; and poles for campcraft projects.

A two and one half acre plot is kept in pasture and a four-acre plot is planted in various truck crops by neighboring farmers, under good land-use practices. These small areas produce a small cash return, but their primary purpose is for conservation education. About 40 percent of the Scouts in the Council are farm boys, and these areas with the woodlot, provide demonstration laboratories in which Scouts learn practices which may be applied on their own farms.

During the week before the conservation camporee (and for the uninitiated in Scout terminology, a camporee is a special weekend or overnight camp) six demonstrations and activity areas were set up around the campsite.

These areas were: 1) soil profiles for instruction in soil types and land capability; 2) pine seedling planting; 3) wildlife food shrub planting; 4) woodlot management; 5) pasture improvement; 6) woods fire prevention and control.

Since setting up these demonstration areas required considerable time and machinery, outside help was needed. Technicians of the Soil Conservation Service and South Carolina Commission of Forestry, farmer-cooperators of the Soil Conservation District and a farm equipment dealer supplied men and equipment for such jobs as plowing seedbeds, removing brush, leveling land and plowing the pasture, marking trees for improvement cuttings and building fire breaks.

But so that Scouts would not miss the thrill of seeing the equipment in action, finishing touches were left for the last minute and some of the heavy work continued while Scouts watched and worked.

The program itself started on a Friday evening in the camp dining hall. Soil and forest technicians briefly outlined the need for the conservation of soil, water, grass, forest and wildlife resources and showed dramatic movies to illustrate their points.

The work-on-the-land part of the program started at 8:30 the next day as groups of 50 Scouts and leaders arrived at each of the six activity areas. At the end of each hour, each group moved to the next station, so that after six hours each boy had taken part in each of the six activities. Of course, they took time out for lunch, and that was a beef stew supplied by the Charleston Chamber of Commerce.

Some 50 thousand slash pine seedlings were planted in the course of the day by six groups of 50 Scouts each.

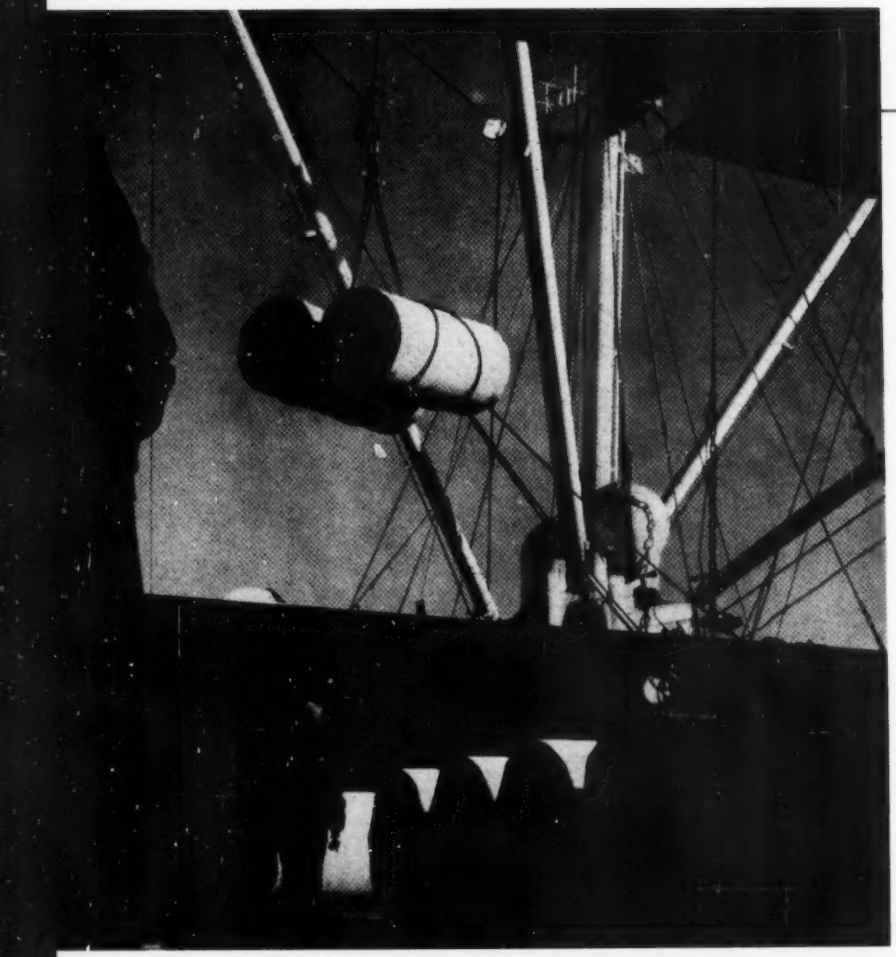
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Boy Scouts of the Coastal Carolina Council learn by experience how to use natural resources wisely

PAPER

FOOD FOR THOUGHT

By A. G. MEZERIK



Rolls of Canadian newsprint being loaded for export

A new kind of hunger is spreading across the globe. The hunger is for newsprint—for paper. To relieve this famine we must find new sources of raw materials

THE oldest known bit of writing in the world, the Presse Papyrus, is in the municipal museum at Istanbul. It dates from about six thousand years ago and the first sentence reads: "Alas, times are not what they used to be. Everyone wants to write a book and children are no longer obedient to their parents."

A long time has passed since then but the situation seems to be just the same—excepting that more people want to write books. There is another exception too. Papyrus leaves are no longer the basic ingredient for the manufacture of writing materials. Along with papyrus leaves the world has used—at one time or another—bones, stones and wood, slabs of clay and metal, fabrics, palm leaves, and finally sheepskin.

Now the world has turned to wood pulp, and green forests are as essential to the printer as is movable type. And not only to the printer, for whether for ideas or confetti, for a poem or wrapping paper, or for postage stamps or wallpaper—paper unwinds itself about our lives from birth certificates through death certificates.

The need for more paper—and more sources for paper—grows almost by the hour.

Governments and international organizations are committed to fighting illiteracy. United Nations Educational, Scientific and Cultural Organization and other United Nations organizations are introducing

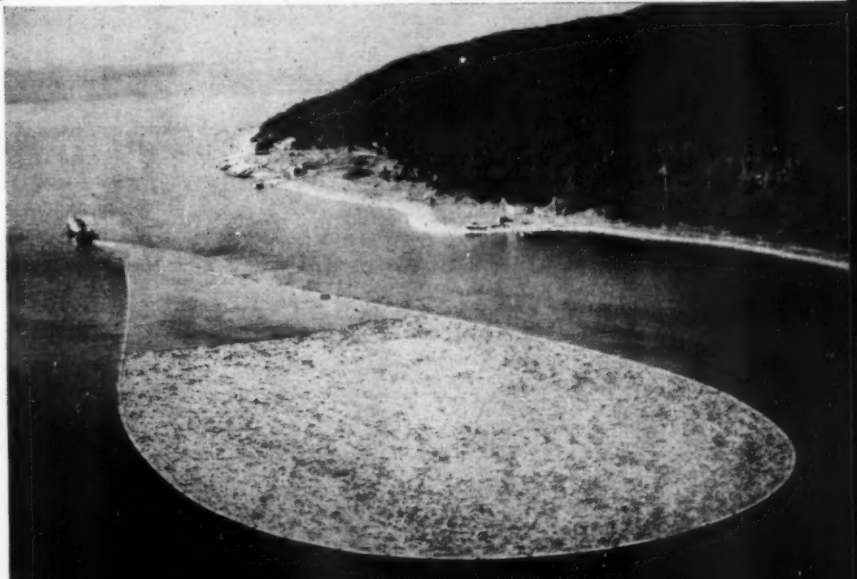


Forests are as important to the printer as movable type



Logs destined for the mill are floated down Canadian river

Enclosed by boom, raft of logs is towed to Swedish pulp mill



new forms of education. Governments are exchanging knowledge and information. Every action along these lines calls for books, newspapers and periodicals. Radio and television are newer forms of communication. They may well be in the long run most important—but for us now it remains true that more men, women and children in the world depend upon words and images printed on paper for their information and knowledge than on any other means of mass communication.

As education removes the cobwebs of ignorance, a new kind of hunger is spreading across the globe. That hunger is for newsprint—for paper. The new famine is robbing

millions of people of their mental nourishment. World organizations are mobilizing to relieve this famine. A newsprint shortage has been obvious for sometime but the general boom in raw materials that took place in 1951, accentuated by stockpiling demands, created an acute crisis. It was then UNESCO became alarmed. Inadequate supplies of printing paper available prejudiced the success of its basic educational program. UNESCO approached the Food and Agriculture Organization and initiated a campaign to meet the emergency.

FAO took on the major responsibility for action on the raw material side. It has moved into the pine forests and out of them and around them in quest of a source of the needed paper for printing. The quest has reached back into time—once again touching the very papyrus from which we started. Egypt, as last year ended, announced it would again try to produce paper from the plant from which paper got its name—the papyrus, on which the Pharaonic Egyptians wrote. The search covers the land. It ranges all through agriculture, although to be sure, it does not now encompass the prospect of reintroducing sheepskin. The record of 300 sheepskins required by Gutenberg to print his Bible on parchment is in no danger of being challenged.

Other ancient agricultural sources for papermaking are not so immune. Wheat straw was employed in making pulp before wood began to be used. But methods were primitive and the product reflected it—being cardboards, corrugating papers and low-grade wrapping papers. However, the art of making pulp from wheat straw has lasted through the centuries with many small straw pulp factories still in operation. Rice straw is also a source for the making of paper—and of much better grade than is possible from wheat straw.

Before the last world war, white papers of a very high quality were made in Java from 100 percent rice straw. The truth is, on the basis of the technical improvement in the straw pulping process, rice straw could be used to a much greater extent as a raw material in those tropical countries where there is an insufficient supply of pulpwood. But the fly in the ointment is that these areas are rapidly mechanizing their farming operations. Harvesting by machines such as combines will cause the farmer to switch to short straw varieties of rice which will reduce the supplies of rice straw before the pulping business gets off the ground.

Bagasse, the residue of sugar cane, is today receiving the most widespread and intensive consideration as a source of pulp. The world's potential supply of bagasse—more than 33 million tons—could do much to alleviate the newsprint shortage.

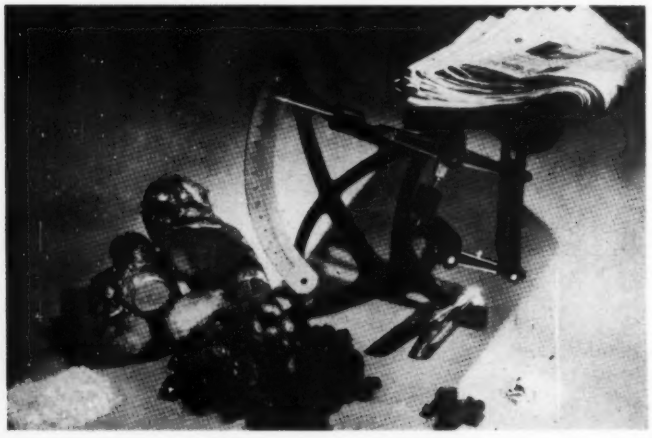
Bagasse makes a good pulp, suitable for various kinds of paper, including newsprint, provided it is produced by modern methods and mixed with groundwood. However, it too has drawbacks. Supplies will be limited as long as most of the world's bagasse is used as fuel to fire sugar processing and refining. And bagasse also has a relatively high pith content which must be removed before actual processing. This cuts down the yield.

It is already clear that, in spite of these and other difficulties, bagasse is going to be a useful supplement to wood pulp in those parts of the world which are in or near sugar-processing areas. But supplement is the word because compared to the total pulp demand, its possibilities are limited to a ceiling estimated by experts to be about ten percent of the world's present pulp output. Today's production of bagasse pulp amounts to less than one percent.

The same areas which produce bagasse grow bamboo. No Johnny-come-lately in the paper field, bamboo is already the chief raw material for making pulp and paper in India. Of India's total pulp production of 128,000 tons, 60 percent was made

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Newspaper weighing only two pounds requires five pounds of wood, coal and chemical substances in its production



In many areas of Thailand and Burma the elephant is still the most effective "machine" in the forestry operations



AFA'S FOREST CLINIC

Pine Weevil

By RALPH C. HALL

ALTHOUGH the pine reproduction weevil (*Cylindrocopturus eatoni* Buch.) is a native insect of California, it caused no serious injury in the state until 1939. At that time it was found to be killing ponderosa and Jeffrey pines that had been planted in a large brush field in northern California. Its recorded range is Madera, Eldorado, Plumas, Shasta, Modoc, and Siskiyou Counties in California.

During the last decade this insect has been responsible for the almost complete destruction of a 3000-acre planting of these pines in the Big Springs area on the Lassen National Forest and for seriously impairing several other similar plantings in northern California. This weevil has caused considerable damage to species of pines and their hybrids at the Institute of Forest Genetics, a branch station of the California Forest and Range Experiment Station, at Placerville, California. It has also injured natural reproduction on burned areas and along roadsides in California. It is a killer of juvenile trees and seems to prefer trees from about 18 inches to three feet in height, but has occasionally been found attacking planted trees up to ten feet in height.

Under natural forest conditions only the two pines, ponderosa (*Pinus ponderosa* Laws.) and Jeffrey (*P. jeffreyi* Grev. and Balf.) are attacked and killed. Under planted conditions at the Institute the following species of *Pinus* and their hybrids have been attacked and killed: *ponderosa* var. *scopulorum* Engelm., *taeda* L., *sylvestris* L., *muga* Turra, *rigida* x *taeda, echinata* x *rigida, monticola* x *strobus,* and *jeffreyi* x *coulteri.*

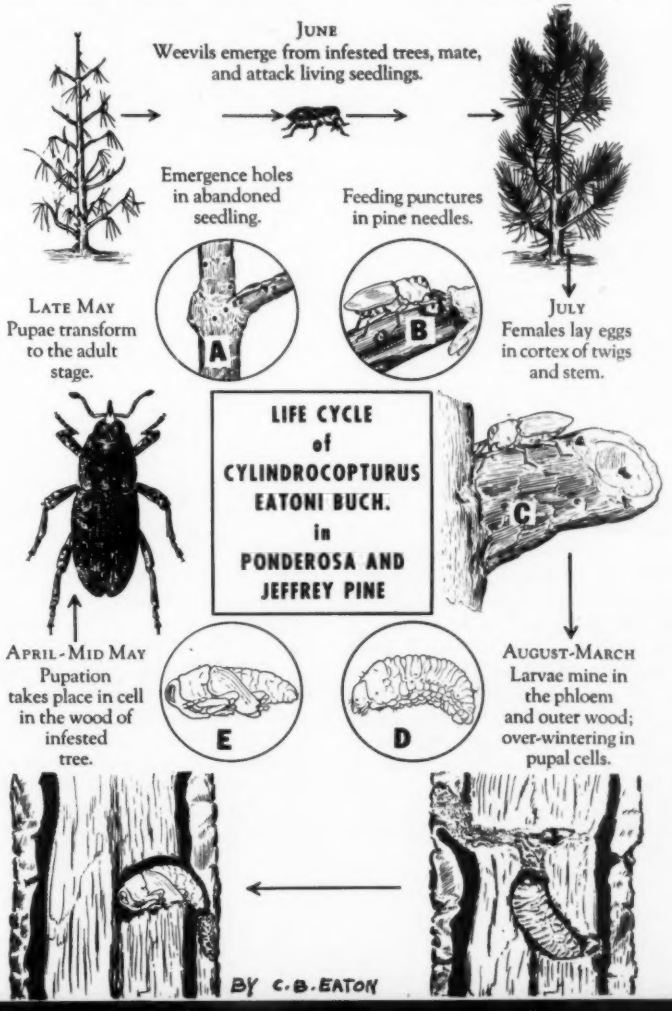
Life History and Habits: Emergence of adult weevils normally starts about the last week in May and continues until about mid-July, with peak emergence usually about mid-June. Shortly after emergence the weevils mate and start feeding on the pine needles, twigs, and stem. Feeding continues for about two weeks, after which the female weevils excavate individual egg niches in the outer bark of the main stem and twigs in which single eggs are deposited.

In about two weeks they hatch into small white or cream-colored larvae, which chew through the outer bark and continue their mines in the inner portion. They reach full development in the late fall, when they construct tunnels in the outer wood. Here they spend the winter as mature larvae. Late in the following spring they transform into pupae, in which stage they spend about two weeks. They then transform to adults and emerge, thereby completing their one-year life cycle.

The adult weevil is a small compact active insect, about 2.6 mm. long by 1.1 mm. wide, clothed with dark and light scales that give it a grey appearance.

Symptoms of Damage: The first signs of weevil activity in the spring are feeding punctures in the form of concentric brown rings about 1 mm.

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SMOKEY BEAR

the toy with a message



Photos by Jack Rottler, American Forests staff photographer

Senators Russell (left) and Martin posed with "Smokey" for his first teddy bear photo. "Smokey" was designed by creators of original Roosevelt teddy bear

FOR several years leading educational organizations in the nation have expressed concern over the "shoot-em-up" types of games, toys, and entertainment to which American youth is being exposed in bigger and bigger doses. There is far too much of it, they agree. Moreover, quite often it isn't being balanced by enough constructive entertainment with a real purpose.

That was why organizations like the National Education Association, Boy Scouts, Junior Red Cross, Girl Scouts and Campfire Girls gave a cheer last year when representatives of the state foresters, Forest Service and Advertising Council came up with an idea they thought might help inject a semblance of sanity into this wild and woolly vortex of barking six-guns and gamma-ray disintegrators.

To put the idea into effect—and to also prevent undesirable commercial use of Smokey—would require an Act of Congress. The Association of State Foresters tackled this by assigning their Legislative Committee to the problem. They discussed the need for legislation with various Senators and Congressmen. Finally, an acceptable draft was made. This was introduced jointly in the House by Congressman Ostertag (Rep., New York), and Rep. Lindh (Dem., Pennsylvania). Senators Martin (Rep., Pennsylvania) and Russell (Dem., Georgia) introduced the Senate version. This non-partisan legislation was passed unanimously by both bodies. Known as the Smokey Bear Act or Public Law 359 of the 82nd Congress, it provides licensing under rules and regulations of the Secretary of Agriculture. Technically, the Chief of the Forest Service issues the licenses, but all proposals have to be approved by the State Foresters and the Advertising Council. Thus by law and administrative approval, the idea was ready for application.

The idea, as explained by George Dean, president of the Association of State Foresters, Clint Davis, of the Cooperative Forest Fire Prevention Campaign, and Henry Wehde, of the Advertising Council, was to release to chain and department stores an array of games, puzzles, phonograph records, belts, scarves and booklets stressing conservation education all based on the popular appeal of "Smokey," the fire preventin' bear. Ranging in price from 15c to $8, at least one item in the lot would be within the price range of every family. Each item would carry a permanent forest fire prevention message. And the *piece de resistance* of the lineup would be a teddy bear replica of "Smokey" himself, replete with ranger hat, badge and shovel.

The beauty of this idea is readily apparent. It means that forest fire prevention as symbolized by a thoughtful-looking brown bear is



Congressmen Lane (left) and Ostertag admire Smokey scarf worn by pretty Martha Bryant



Secretary Benson examines fire poster with Mr. Dean, Adman Repplier, Chief McArdle



"Talking Smokey" intrigues Ben Michtom, Ideal Toy Co. head, and Henry Wehde, of the Council



"I will be careful," pledges Jim Reid, Troop 275, Silver Spring, Md., as Secretary Benson approves

about to be introduced into thousands of homes all over the nation in one fell swoop. Many parents don't know it yet, but "Smokey" is about to take up permanent residence with them. And the softening effect on father when he sees "Smokey" and his tow-headed son sleeping side by side in the same crib is not difficult to imagine. Nor the fact that he will be just a little more careful the next time he takes his rifle or his fishing rod into the woods.

Could "Smokey" profitably compete with some of the more vigorous adventurers currently held in esteem by the nation's youngsters? Managers of chain and department stores seemed to think so. They gave their answer with an avalanche of orders for the "Smokey" materials. More than that, they promised to launch the program with show-window displays playing up the importance of forest fire prevention.

Given the green light from a variety of sources ranging from artists who wanted to make "Smokey" recordings to disc jockeys who want to play them, the CFFP Committee decided to use a song as the trial balloon. "Smokey the Bear" made an encouraging impression and was immediately recorded by Victor, Columbia, Golden and Decca Records. During the past Christmas this song reached fifth place in sales of popular Christmas records. With "Smokey" fully protected against commercial infringements that might jeopardize his position as a champion of forest fire prevention, the Advisory Committee of the program awarded the job of designing a suitable "Smokey" teddy bear to the Ideal Toy Company of New York, designers of the original Roosevelt teddy bear. A number of models were made and discarded by the Ideal artisans. The final result is an authentic "Smokey" with plenty of teddy bear appeal but who also has the thoughtful mien of the eldest child in a large family. Which is fitting, for "Smokey" has a real purpose in life and heavy responsibilities.

Present plans are to launch the new drive to introduce "Smokey" to homes across the continent at the height of the fire season. This will permit toy companies to wind up the Easter bunny and baby chick orders before starting work on an initial run of 100,000 "Smokey" teddy bears and assorted puzzles, games, booklets and other materials. Royalties from the sale of these materials will be plowed back into the forest fire prevention effort as espoused by the Forest Service and the state foresters. And in every case, each "Smokey" item placed on sale will carry a permanent forest fire prevention message in accordance with Public Law 359.



. . . *Pruning Tools*

By HARRY WILLIAM DENGLER

CLEAR, quality pine lumber is currently retailing for $400 and better per thousand board feet. This is roughly two to three times the price of lower knotty grades. Such a price difference is causing foresters and woodland owners to give pruning thorough consideration, or, if they are already pruning, to step up their operations.

This interest has been given impetus by recent studies of various state and federal forest and agricultural experiment stations. Dr. William C. Bramble of Pennsylvania reports that in red pine plantations net gains of at least $41 per thousand feet are possible by pruning to a butt-log height of 17 feet. This figure includes the costs of pruning in three different operations with interest compounded at four percent over a 60-year period.

U. S. Forest Service researchers state that it is theoretically possible, under ideal conditions for pruning, to increase profit by more than $2000 per acre in the Douglasfir and ponderosa pine areas of the western United States. Dr. Clifford Foster of the State of New York's famous Pack Forest believes it to be perfectly practical and financially sound to prune white pine crop trees to an average height of 34 feet.

Tools, techniques, the time and the number of trees to prune per acre vary according to the species involved and the preference of the foresters. All foresters agree, however, that at least one-third the height of the tree should be composed of live crown. Less than this, they say, would slow down the growth of the tree.

Whatever tools or techniques are used, the aim of pruning is to remove the lower branches to butt-log height with the least possible injury to the tree. Natural pruning of southern pines, foresters show, may not take place from six to 12 years after the limbs have died. In northern white and red pine, dead branches persist for an average of 27 years and 24 years, respectively.

In one white pine plantation clear wood had not yet begun to form after 33 years due to the persistence of the branches. In average stands of Douglasfir, as many as 100 to 150 years are lost before a tree starts commercial clear wood in the first 16-foot log. Foresters state that, starting now, 45,000 acres in the Douglasfir region alone need to be pruned each year just to provide the volume of high-grade logs needed to sustain plywood production at current levels.

According to the best available information, there are some 7,692,000 acres of forest plantations of varying ages in the United States. The U. S. Forest Service has suggested an overall goal, public and private, of 32 million acres in 25 years as a reasonable adequate attack on the reforestation job. This amounts to more than a billion trees a year. Much thought must be given to pruning in these and prior plantations as the trees reach the proper size.

Lawson wrote in 1597 that he knew nothing within the compass of human affairs so necessary and so little regarded as the pruning of timber trees. In his great "Silva," first published in 1664, Sir John Evelyn related that the ancients found much benefit in pruning and even had a goddess who presided over this art. He said that by the discreet practice of this work, the improvement of our timber and woods by pruning is about one of the best practices possible. "A skillful planter should therefore be early at this work," he said.

Other and more immediate bene-

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The Meylan saw, with its 16-inch curved blade, is an unusual handy pruning tool



Designed for higher pruning, the English-made Whitmore chisel looks good



Meet the Chief

By JAMES B. CRAIG



A man of experience and stature, Richard E. McArdle directs the U. S. Forest Service with an efficiency that stamps him as a potentially outstanding chief

THE man who holds the key forestry job in the United States had cancelled his other appointments and, using his desk as a diagram board, was explaining why a chief of the U. S. Forest Service must have a "broad-gauge" outlook, can't be "hidebound" in terms of the past, and has got to "see the whole sweep of events in terms of the whole forestry picture."

"Now, over here we have the U. S. Forest Service and the other federal agencies engaged in forestry," Chief Richard E. McArdle remarked, drawing an imaginary line on his desk. "For many years federal forestry was the only forestry. If there had been a forestry parade 50 years ago there would have been only a handful of marchers, nearly all federal.

"Federal forestry activities have grown as they properly should but today this is no longer the sole area of forestry activity," Chief McArdle continued, drawing a second line parallel to the first. "State forestry is fast coming of age—in fact the state division of today's forestry parade is now bigger than the federal division. And if there is one thing I am proud of it was the opportunity I had to work with these various state groups for eight years as assistant chief.

"Finally, we have another rapidly-developing area of endeavor, especially in the last five or 10 years," the Chief continued, drawing a third parallel line. "That's private forestry. Right now, there are more foresters engaged in private forestry than in the federal and state setups combined. They are increasing all the time. And incidentally, nothing pleases us more than when one of our men goes into private work to help open up new fields of activity. That spells progress.

"Then, of course, there's the resource itself. Forestry progress isn't measured just in terms of number of foresters employed—although that's one good yardstick. After all, it's the land itself that we should be most concerned with. As might be expected, in half a century there have been tremendous changes in the forest resource. We have less big timber now. We have more different uses for timber and use sizes and species that were not used only a few years ago. We have much better utilization in the woods, too, as well as in the mill.

"I don't have recent figures to prove it, but I think we have more land under good forest management than we had, say, ten or 15 years ago. I know this is true for the larger forest ownerships. I think it is gradually becoming true for small forest holdings too, but there we have a long way to go, and it's going to take time to get that job done. I guess I'm more impatient than anybody I know in wanting to get on with this part of the job. Anyway, despite the fact that we've still got much to do, it's a big satisfaction to look back on the progress made during the past five or ten years. A chief of the Forest Service has to try always to keep his eyes on both sides of the ledger. The decisions he makes must be made in terms of the whole picture, not just one part."

In addition to working with these various areas of forestry endeavor, the chief of the U. S. Forest Service must administer 153 national forests on 181 million acres in 39 states and in Alaska and Puerto Rico. He does this with the help of a permanent staff of 9,000 people representing 25 different professions. Last year, receipts from timber sales, forage and other uses topped 71 million dollars.

If this big job could be run like any other business it would probably be a lot easier for the chief. But the national forests were not established to make money. Under the Service's multiple-use program, upwards of 30 million recreationists thronged to national forests last year. Water is the product of good watershed management on the forests. Last year, water for 13 million irrigated acres and for domestic use (more than 1800 communities) and hydroelectric power (most of the major power developments in the West) came directly from national forest watersheds. And water supply becomes increasingly important with every passing year.

There are three ladders of advancement in the Forest Service, namely, national forest administration, research (in the middle because it services the other two), and state and private forestry. Chief McArdle's predecessor, Lyle F. Watts, came up the national forest administration and research ladders. Chief McArdle came up the research and

(*Turn to page* 28)



Billy Hine, known as "Little Dynamo," served as state forester for four years



Henry Hardtner, father of Louisiana forestry, as he appeared years ago



LOUISIANA S

WHEN historians write the story of Louisiana's forests, the chances are they will ponder long on the year 1913. For this was the peak year of the lumbering era, when production rose to an all-time high of 4,162,000,000 board feet. And it was the year Henry E. Hardtner came out of Urania to sign the first reforestation contract in the history of the state.

At the time, neither event received the attention it deserved. But today's historians, looking back, will record that under the weight of the unprecedented 1913 timber harvest, and the billions of feet that had gone down to the mills before it, the lumber economy of the state began to sag, bringing to a close the feverish era of big timber and big timbermen. The other event, almost lost in the whine of a thousand big saws working 'round the clock, is of equal if not greater significance, for it signaled that forestry in Louisiana had shed its swaddling clothes and was exhibiting a healthy capacity for action.

More than that, it projected into southern forestry the name and influence of Henry E. Hardtner—one of the truly great names in American conservation.

Standing practically alone among big timbermen in the belief there was a future in second growth, Hardtner even in the midst of wood plenty talked and practiced common-sense forest management. This, he argued, and later the experimental plots on his Urania holdings argued for him, could be profitable not only to the landowner but to the state as well in that it spelled perpetual production.

But up until 1913, Hardtner's demonstrations and philosophies had few takers, mainly because of Louisiana's almost unbelievable forest heritage, estimated to be around 150 billion board feet at the time General Andrew Jackson was defending New Orleans against the British. Only those states which bordered on the Pacific Ocean could claim greater wealth in trees.

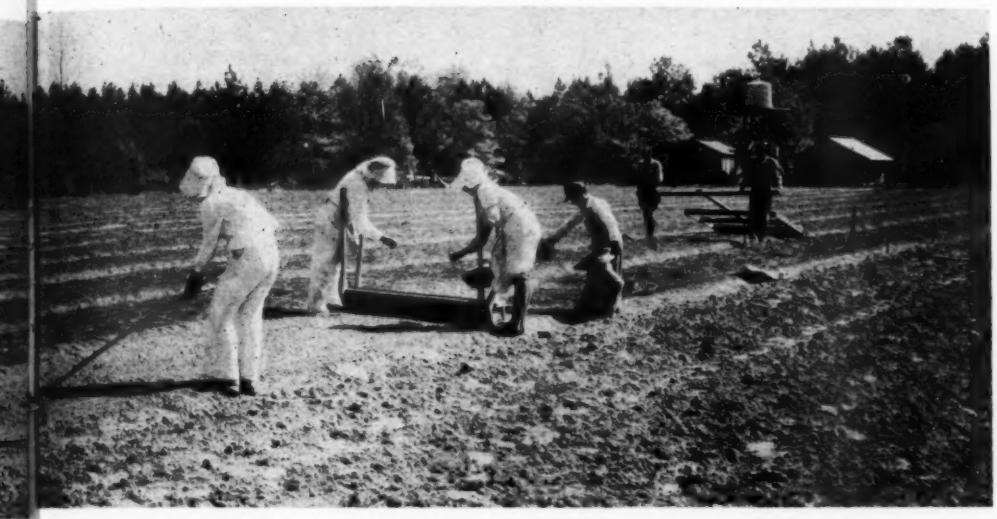
Eighty-five percent of Louisiana's land area was in timber—virgin forests of pine, cypress and tupelo gum which covered all but the sea marshes and the prairies. One longleaf pine region stretched across 12 parishes west of the Mississippi River, while another, east of the river, covered five. A belt of hardwoods, from 20 to 50 miles wide, ran the length of the Mississippi, culminating at the delta swamps which held at least 15 million board feet of cypress.

Until the 1870's when railroads began to open up the state, the lumber industry moved at a snail's pace. In 1869, for instance, Louisiana's lumber production was less than 76 million board feet, lowest in the south. Without a vital outlet to the north, commerce was limited to rivers such as the Sabine, Calcasieu and Red. What lumber that left the state was shipped out of the port of New Orleans.

The coming of the railroads, which also brought in northern capital, changed all this—and changed it fast. Production practically doubled every year until 1904 when a harvest of 2,500,000,000 board feet topped that of any other southern

This story will appear as a chapter in a book detailing the development of forestry in the various states. Due this fall, it is being published by the Association of State Foresters

Scene at Great Southern's seedling nursery about 30 years ago



STATE STORY

By EDWARD F. KERR

state. In cypress alone, more than three billion feet had been taken out of the swamps at the close of the century.

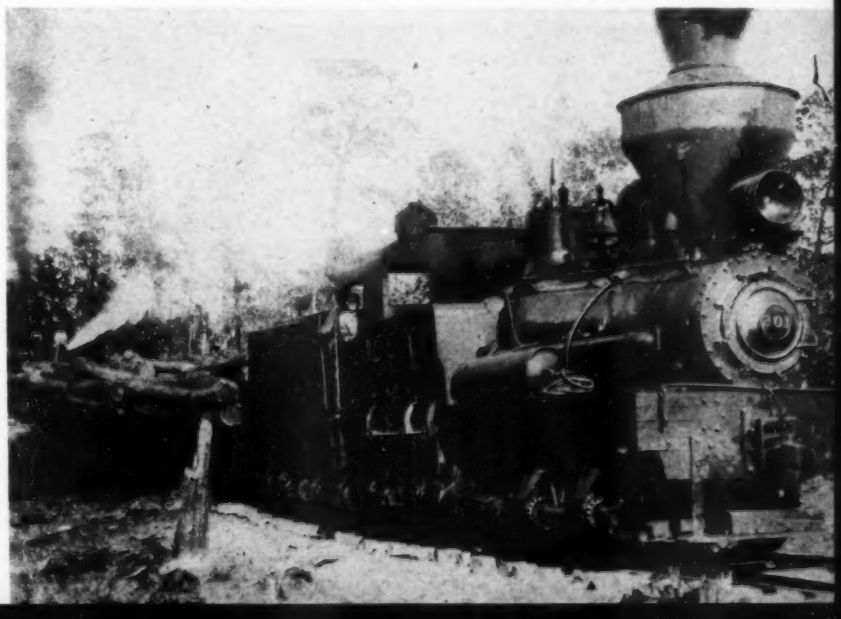
Many timber giants such as Long-Bell and Frost-Johnson moved in during this period of gathering momentum, but the goliath among them did not appear until 1908 when lumbering was well into its golden era. This was the year the Great Southern Lumber Company completed its mill at Bogalusa—the first lumber mill in the world to be built of steel. For more than two decades, its four 8-foot Filer and Stowell band mills drove full-speed ahead, writing history by churning out a million board feet of lumber every 24 hours.

To run the mill, Great Southern brought in a colorful, dynamic Irishman, Colonel William Henry Sullivan, and from the moment he set foot on the banks of Boga Lousa Creek where the mill was to be erected, his vigor, enthusiasm and flair for the colossal dominated the Bogalusa scene. That lumber town still talks of his wedding in 1922, an affair so stupendous that a special train was engaged to carry the people of Bogalusa to Slidell, where the ceremony was performed. When a church large enough to accommodate the expected number of guests could not be found, a huge tent was erected. Its capacity was 4000 people.

Along with his love for the spectacular, the hard-driving Sullivan was a woodsman of considerable foresight and, as the cutover lands built up around Bogalusa, large planting crews were put to work. The result of these efforts, highly publicized at the time, was a series of plantations which later became show windows for forestry in the Deep South, attracting foresters and conservationists from all over the world.

But in 1908 Colonel Sullivan was too busy tuning up Great Southern's four band mills to give much attention to events slowly shaping a pattern for state forestry in Louisiana. As early as 1904, with Henry E. Hardtner and a few stalwarts talking forest conservation, the legislature had been asked to establish a state department of forestry to work toward the "preservation of the for-

Looks antique now, but this train hauled many a log in its day



ests." About all that came *of* this, however, was unmistakable evidence of a rising public concern over what was happening or could happen to the state's wealth of timber.

And very likely it was a factor in the vigorous interest shown by Governor Newton C. Blanchard in 1908 when President Theodore Roosevelt held his famous Conference of the Governors at Washington to encourage organized state participation in the conservation movement. With Hardtner and others at his elbow, the governor not only took part in the White House conference but returned home to establish a Conservation Commission, naming Hardtner as its chairman.

The legislature immediately assigned to the Commission the task of inquiring into forest conditions in Louisiana, with "reference to the preservation and reforestation" of land. At the same time, it approved the initiation of a chair of forestry at Louisiana State University.

By 1910, the Commission was ready with a six-point program of forestry for the state. Highlights of this were the creation of a department of forestry, protection of cutover pine lands from fire, elimination of logging waste, establishment of state forest reserves, a better system of taxation on young growing forests, and the initiation of a system of taxation on mature timber, collected on manufacture, the proceeds to be applied to the conservation of the timber resource.

Records bear out the soundness of these recommendations.

The first forestry legislation enacted after these recommendations, and perhaps the most far-reaching ever enacted in Louisiana, came the same year and provided for reforestation contracts between the state and forest landowners. Under this law, the owner of low-value denuded land could enter into an agreement with the state for the purpose of growing timber and protecting it from fire—the land so contracted to be assessed at a modest figure arrived at by the landowner and the county governing body.

Public sentiment and the work of the Conservation Commission played a major role in the passage of this law—but it is also true that the legislators were not unimpressed by the blots of cutover lands which were beginning to appear on the Louisiana landscape. The golden era was in full swing, and although the peak harvest was yet three years away, the resounding crash of falling trees could be heard throughout the state.

Henry E. Hardtner, as perhaps was expected, signed the first reforestation contract. In 1913, while most of the lumber industries in the state were busy marking up a record timber cut, Hardtner was starting work at Urania on his program, involving 28,000 acres, after first bringing in a government expert to advise on reforestation possibilities.

Perhaps it should be mentioned that what Hardtner called "reforestation" was quite different from the tree planting engaged in by Great Southern's large crews. Hardtner's holdings were situated in loblolly country where, due to the reproductive capacity of loblolly pine, there was timber of all ages. He preached — and he was right — that with proper forest management he could maintain perpetual production through natural regeneration or reseeding. Great Southern lands, on the other hand, were in the longleaf belt, where timber did not reproduce very fast. Thus, under conditions existing at the time, artificial planting was called for.

Urania has never strayed from the good forestry path. Early in the program, Hardtner set aside 12 permanent sample plots for study of natural reproduction of longleaf, shortleaf and loblolly pine and of the hardwoods, with special attention to the effect of fire on the various species. Complete and permanent records have been continuously maintained.

The first funds directed toward fire protection by the state came late in 1915, when the federal government offered to match money provided for this purpose. The same year the Conservation Commission was changed to the Department of Conservation and in 1917 came a Forestry Division and the first active state forester—R. D. Forbes, a graduate of the Yale School of Forestry.

State forestry in Louisiana was now definitely on the march, and forward steps came in quick succession. A forestry governing board was created, made up of the Commissioner of Conservation, two lumbermen, and representatives of Lou-

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Early-day pulpwood loading near Bogalusa, top photo; Henry Hardtner with visiting Yale graduates, bottom



. . . Roots and Sewers

By HENRY B. STEER

ABOUT four years ago sewerage backed up in my cellar through the basement lavatory. What a mess!

A hurry-up call brought plumbers with an electric "snake" who opened up the line and informed me that tree roots had stopped up the sewer line somewhere between the house and the street. Sure enough—root fibers were caught in the cutting end of the snake. The proceedings were repeated twice at intervals of a few weeks.

Finally at the recommendation of the plumber who said it was the only thing that could be done, the sewer line from the house to the street was dug up and replaced at a cost of more than $300. I watched the operation which took three men about two days. The original sewer line, laid in 1922, was terra cotta, six inches in diameter, and cemented at the joints. Tree roots had entered the tile through a crack in the cement at one joint. Otherwise the line was in perfect condition.

My experience is not an isolated example. Four of my neighbors within a radius of a block have had the same experience within the last 15 years. It can happen to you if you have trees and shrubs in your yard.

Two years ago last summer while on a short vacation in Connecticut, the sewer in the home of my host ceased to function. It seems that a few weeks previously plumbers had opened up the sewer line with a "snake" and reported that the stoppage was due to roots. The remedy? Replace the line.

My host had other ideas which he had obtained from a chemist friend of his, so we made a short trip to New London and returned with five pounds of a bluish white chemical in crystals. My host followed the instructions on the container and has had no further sewer trouble. The cost of the treatment was less than $3 as compared to my more than $300.

About eight months ago one of my immediate neighbors had the same experience with a sewer line stopped up with roots. He used the same bluish white crystals at my suggestion and has had no recurrence of the trouble as yet. His cost was less than $2 as compared to the plumbers estimate of $275 for replacing his sewer line.

It has long been recognized that roots and fungus growths result in the stoppage of sewers and storm drains and present a serious problem in the maintenance of these systems. In their search for food and water, the roots of trees and shrubs will penetrate cracks at the joints or other defects allowing them to enter drains and sewers. Unless these growths are controlled, they will obstruct and even completely stop up these underground conduits.

Because of the lack of knowledge that root and fungus growths in sewers and storm drains can be controlled by the use of chemicals, individual property owners, towns, and cities have incurred very heavy costs in removing these growths by mechanical means. They have removed many beautiful shade trees, and not infrequently—as in my case—have needlessly replaced the affected portion of the line.

Cutting the roots out of a sewer does not prevent future growth. On the contrary, it promotes a bushier and more compact growth in exactly the same manner as happens when the above ground branches of a tree or shrub are pruned. The answer to this problem, based on nearly 20 years of experience, is to kill the root and fungus growths in sewers by chemical treatment.

Chemicals for use in cleaning out roots and fungus growths in sewers are made and distributed by several commercial concerns under various trade names. It is the understanding of the writer that the principal—if not the sole—ingredient of these preparations is copper sulphate.

A commercial producer of copper

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All these roots came from drainpipe in center of photo



Meet the Chief

(*From page* 23)

private routes. His outstanding success in working with people in the latter field is one reason many people believe he will prove a successful chief in an era of vigorous forestry expansion.

McArdle has a gift for diplomacy. He also has tact and patience. But perhaps his outstanding characteristic is his ability to put himself in the other fellow's position. Thinking out loud, he will start with the other fellow's premise—it may be a grazer, a lumberman, a wildlife devotee or a member of his own department. Then, in a series of deft circumlocutions in which he keeps spreading out in an ever-widening radius, he examines the problem from the standpoint of other interested groups and finally from the standpoint of the people of the United States.

In arriving at a conclusion, McArdle quite often has to say no. The callers—who are invariably zealots in their own particular area of activity—may differ with the chief's conclusion but unless they happen to be unusually bull-headed individuals can scarcely say they haven't had a fair shake. In describing a McArdle interview with friends, it is not uncommon to hear individuals report, "Well, he said 'no,' but Mac has a lot of angles to consider."

This sincere desire of McArdle's to examine all questions from all sides occasionally results in the charge that he appears to be in favor of both sides of a question at once. Sometimes, this is due to the inability of the caller to follow the unique McArdle system of thinking out loud and going around and around a problem until the parts of the puzzle fit together. Sometimes it is due to the fact that what McArdle, the forester, would like to do is entirely different from what McArdle, the chief of the Forest Service, has to do —plus a tendency to take all manner of people into his confidence.

It's no easy job looking after the interests of *all* the people of the United States. A Forest Service chief has to be a tough man. He has to be able to say no to a lot of very persuasive people. McArdle can do that and once he has made up his mind he can be solid as granite.

What was his formula in working with state and private groups as assistant chief?

"I can't give you any formula for that," McArdle said. "Certainly one factor has been that there are no prima donnas in this business. Long-time business like forestry has to depend on good work by a lot of people—on good team work—with no one trying to take all the credit. Perhaps the most important thing in working with state groups is to feel as responsible as they do for getting a successful job done but to recognize clearly that the state officials are the ones held accountable by their legislatures for program in their own states. Which means that federal participation must be indirect.

In commenting on his management philosophy, McArdle said, "Personally, I have always been a firm believer in the individual doing for himself in forestry. Basically, it's a job for individual landowners. And that is especially true for the smaller forest owners. They have three-fourths of the privately-owned forest land, you know. It's their responsibility, not ours or the state's. But you've got to remember that most small landowners don't make their living by growing trees. More than that, many of them have to start out with a forest that may have been pretty badly culled over. Initially, they may have to get rid of a lot of junk, and they aren't likely to do it unless they can do so at a profit. Their interest has to be aroused, and it's a job for the public forester, as I see it, to help these people get started in the right direction, providing they aren't in a position to hire a consulting forester."

Fire control, on the other hand, is a public job in McArdle's opinion since fire is no respecter of boundaries and consequently is everybody's business. Moreover, the general public starts most of the fires. However, the public should not provide the maximum help needed, he thinks. It should provide aid up to a certain level—a level high enough to prevent substantial losses. Personally, it pleases him when landowners protest about the level of protection and demand more—even when it can't be provided. It shows increased interest in forestry, means they will not be so reluctant to begin supplementing public efforts.

That Chief McArdle has a firm faith in the forestry future of the nation is perhaps best evinced by the fact that the oldest of his three sons is a forestry graduate. A second son is now a junior in forestry at the University of Michigan. A third, Michael, 16, hasn't made up his mind whether he wants to be a forester too. If he does, it's entirely okay with his father.

"I haven't urged them to become foresters," McArdle commented, "but I certainly haven't stood in their way. When the nine men in my class at Ann Arbor were worried about getting jobs, Professor Roth told us not to worry—that we would create jobs for foresters. And we did. I'm not worried about Dick, Jack, and Michael having to make their own jobs. The future looks good for foresters, and there is a powerful lot of satisfaction in being a forester.

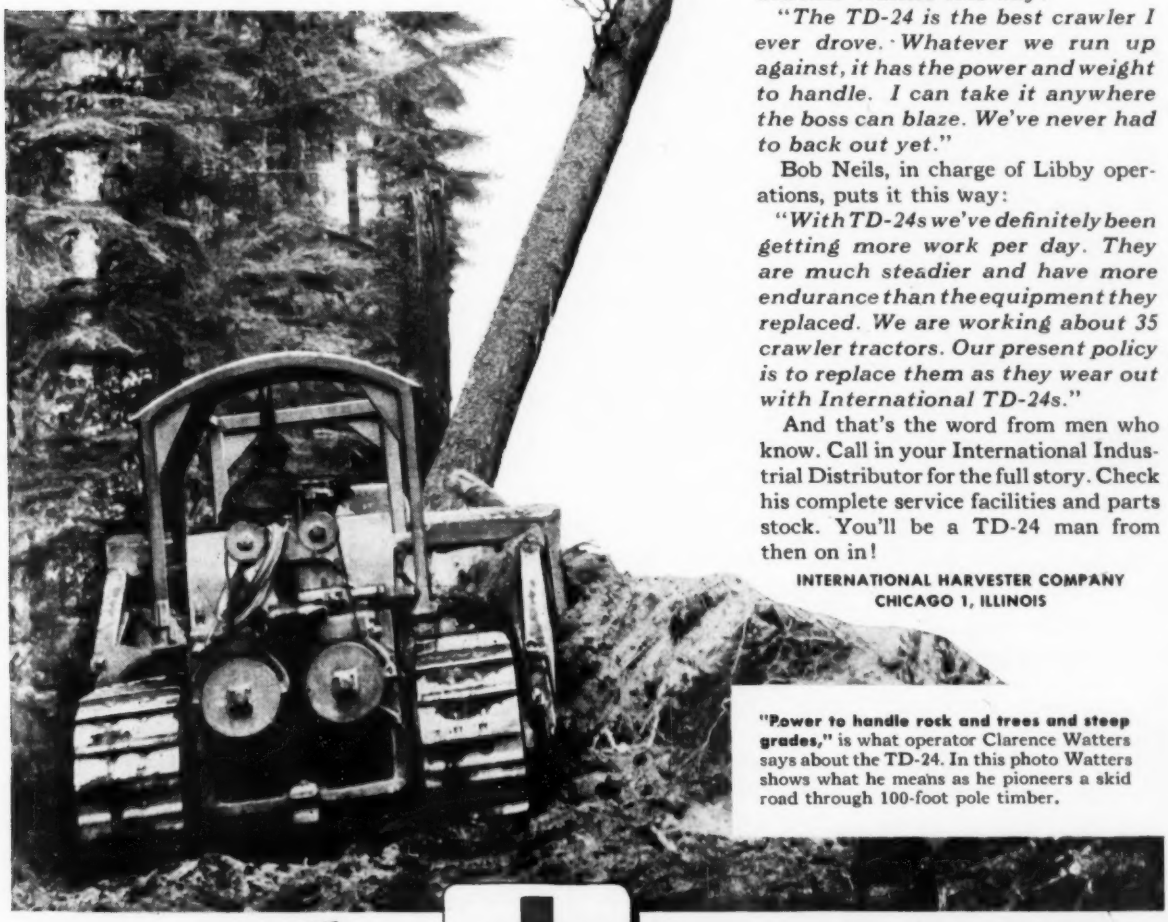
"And the future looks good for forestry generally," the chief continued. "We are now extending the curve of what has been happening in the last five years or so. The curve of public interest in forestry is up. The impatience of landowners with the level of fire protection is a healthy sign. Stumpage is worth more. There are more and more foresters with more and more work. More lands are under better management. Certainly, there are still many areas where cutting practices are bad. No one will deny that we still have quite a way to go. But the over-all picture is a lot more encouraging than many had deemed possible years ago. I'm glad the job isn't finished—that we still have much to do. We still need forests and foresters. Another encouraging thing is the fact that so many conservation-minded groups are pushing forestry along. This momentum isn't going to fall off in my judgment, barring an economic collapse, which is unlikely."

A career government forester for 28 years, McArdle became chief last July 1. With the arrival of a new administration, there were rumors that he might be replaced. They were unfounded. In general, federal, state and private forestry is solidly behind him. They know his ability to work with people, his emphasis on cooperation. In addition to that, they like him. As Secretary Benson commented recently in referring to McArdle, "He's a man who grows on you."

With a broad background of experience and endowed with plenty of horse sense, there appear to be no reasons why Chief McArdle won't make a good chief and possibly a great one.

"Never had to back out yet"

—says TD-24 operator Clarence Watters making skid roads through mountain timber near Glacier Park for J. Neils Lumber Co.



International TD-24s push up mountain sides as steep as 55 per cent around Libby, Montana, where the J. Neils Lumber Co. is logging 100-foot virgin larch for power line poles and lumber.

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Your Shade Trees

(*From page* 27)

sulphate reported in 1949, as follows:

"Frequently, concern is expressed for the tree or shrub whose roots, having penetrated sewers, are being treated with copper sulphate. In almost 12 years of practice, during which a considerable amount of copper sulphate has been applied to the sewers, Ridgewood, N. J. has yet to experience the loss of a single tree or shrub, valuable or otherwise. Apparently, the absorptive function or "drinking" mechanism of the roots is destroyed before the toxic copper travels very far. This results in only local killing action, and thus explains why not even a leaf is discolored by the most concentrated dosage. Also, the loss of such a small part of the extensive root system of a tree is apparently of little consequence and no visible effects on its health or vigor are discernable."

The prudent housewife doesn't wait until her sink or wash basins are completely stopped up with foreign matter of one kind and another and then call the plumber. She periodically uses a chemical sold at most grocery stores and by following the instructions on the package she is assured, under normal conditions, of a freely-emptying fixture.

Similarly a home owner having shade trees and shrubs on his lot shouldn't wait until his sewer line is plugged up. It does not always happen to all of us, but it has happened to some of us and can happen to any of us.

If you have trees and shrubs on your lot find out where your sewer line leaves the house and where it connects with the main sewer. If trees or shrubs are near it there is always the possibility of obstruction by roots. The periodic use, say about once a year, of two pounds of copper sulphate crystals at a cost of about $1 would be a wise preventive measure.

If your hardware store does not stock copper sulphate, the yellow pages of the local telephone directory, under chemicals, will tell you where to get it. Follow the instructions on the container.

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Dana, Woods Will Direct Second Higgins Lake Forest Conference

Samuel T. Dana, one of the nation's outstanding foresters and writers and former dean of the School of Natural Resources, University of Michigan, has been named chairman of the second Higgins Lake Conference called by The American Forestry Association. Scheduled for June 29, 30 and July 1, the conference has been called for the purpose of modernizing AFA's 30-point Program for American Forestry adopted in 1946 and to serve as a steering committee for the Fourth American Forest Congress called for October 29-31 in Washington, D. C.

Announcement has also been made that John B. Woods, who headed up the Forest Appraisal made by AFA following World War II, will serve as vice chairman with Dean Dana and will actively assist Fred E. Hornaday, secretary of the Association, in setting up and managing both the Higgins Lake Conference and the Forest Congress.

Meanwhile, acceptances continue to come in from members of the original Higgins Lake Committee that will confer with AFA's Board of Directors in June-July. Forest Service Chief Richard E. McArdle has announced that Assistant Chiefs Edward C. Crafts and W. S. Swingler, who hold the same positions Chief McArdle and R. E. Marsh held in 1946, will represent the Forest Service at Higgins Lake.

Others who have accepted AFA's invitation to attend the conference include:

Lloyd E. Partain, the Curtis Publishing Company, Philadelphia, Pennsylvania—"I'll be there."

A. Z. Nelson, forest consultant, New Ipswich, New Hampshire—"The 1946 conference was very worthwhile. It contributed lasting benefits to the progress of forestry in the United States. The AFA is to be commended on its decision to review its 30-point program in the light of new developments subsequent to 1946 and to seek the counsel of those who helped to develop the original program."

George A. Garratt, dean, School of Forestry, Yale University—"I have very pleasant recollections of the original meeting at Higgins Lake and the constructive discussions of the 1946 Committee . . ."

Julian F. McGowin, W. T. Smith Lumber Company, Chapman, Alabama—"I enjoyed the first meeting at Higgins Lake very much and I hope this one will be as interesting."

S. G. Fontanna, dean, School of Natural Resources, University of Michigan—"Will make every effort to be present."

Corydon Wagner, vice president, St. Paul & Tacoma Lumber Company, Tacoma, Washington—"I am very happy to have been a member of the first conference some years ago and trace to it many valuable results and important personal benefits. I am accepting the invitation to join the group in June."

Tom Wallace, editor emeritus, Louisville Times, Louisville, Kentucky—"I shall be very glad to attend the Higgins Lake Conference and I hope we shall have the good fortune to get together a large proportion of the personnel which made that conference interesting in 1946."

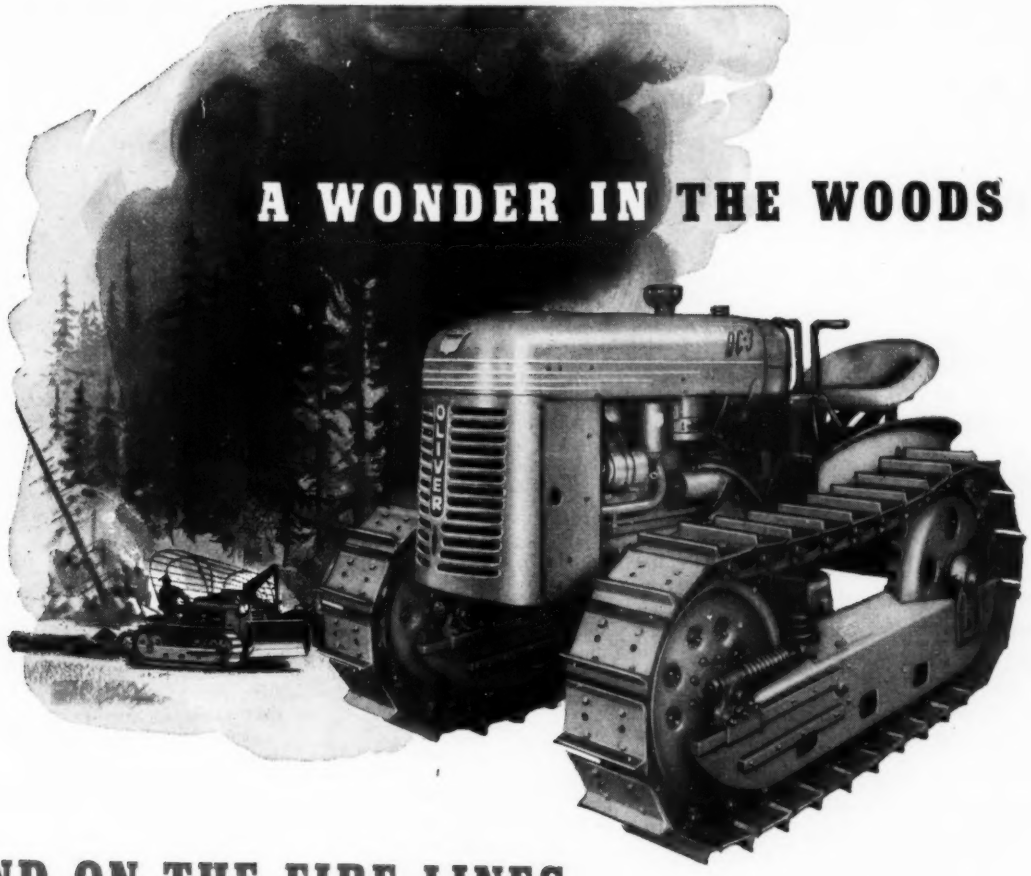
George O. White, state forester, Missouri—"I plan to attend."

John F. Shanklin, chief, Land Use Management, Interior Department—"I will make every effort to be present."

In the effort being made to get the former Higgins Lake group together, one great gap and saddening note has been the death on last October 22 of Judge Clifford H. Stone, former director of the Colorado Water Conservation Board, who served as moderator at the conference. His representative from the Commission has not as yet been appointed.

At this point, it appears that attendance of former Higgins Lake committee members still available will be 100 percent at the June-July meeting.

Meanwhile, plans are going ahead for the Washington Congress October 29-31 with Secretary Hornaday announcing that letters are now going out to all interested organizations inviting them to attend and take part in the first town meeting of this type on forestry since 1946. Initial response has been encouraging and the secretary suggests that individuals planning to attend the Congress make their reservations with the Statler Hotel, Washington, D. C., at the earliest possible moment.



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4-53

They Still Covet

(*From page* 12)

ranch permits for the full number of stock the seller held. The text says that "shall" be done; mandatory.

Just what is the implication in this?

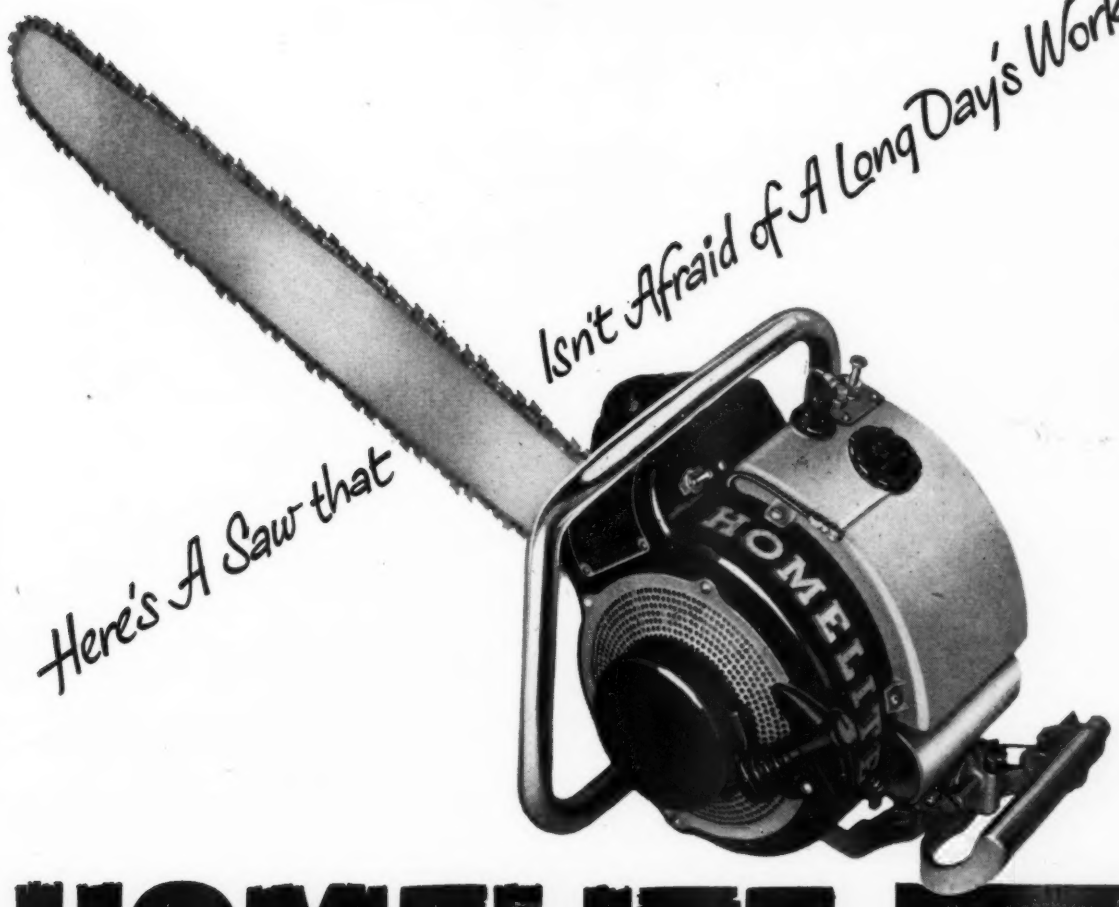
Coupled with Section six, it means that a grazing *permit* in essence becomes a part of the vendable value in a ranch property. By implication or by future interpretation of the law, a ranch owner would be *legislated a gift* of an assured, legally established, vested right in our lands now free from any such incumberance. It now is illegal to "sell" grazing "rights" on the national forests as a ranch is sold. It is done; by upping the price of the "base property" in the ranch. But there is no legal status of the "rights" the seller purports to convey.

Such rights legalized, if the "act" becomes law, would donate without any payment for value received thousands on thousands of dollars of vendable property to those lucky enough to hold permits.

There are other questionable provisions in this text. It would allow those grazing the forests to build improvements on our land; and by common law principles they'd secure a bit more of a vested right in the property where they put in improvements. It is provided, however, that if the operator is moved off the range where he has built his fences, roads, waterholes or done reseeding, he must be reimbursed for what his costs have been—and what a hassle there would be over how much he should get in such a case.

Without saying so outright, this proposed act would allow a disgruntled stockman to take his gripe about Forest Service administrative action into local courts. It is now possible for a permittee who is dissatisfied with action of a ranger or forest supervisor, to appeal and appeal decisions all the way to the Secretary of Agriculture. That isn't enough. What the cowboys want is to get their case into local court where they could expect "sympathetic" consideration, and perhaps drag on any contention for years. While the court case would be delayed, the forest men would have to allow the permittee to continue to run his stock without reduction in numbers—probably to pyramid

(*Turn to page* 36)



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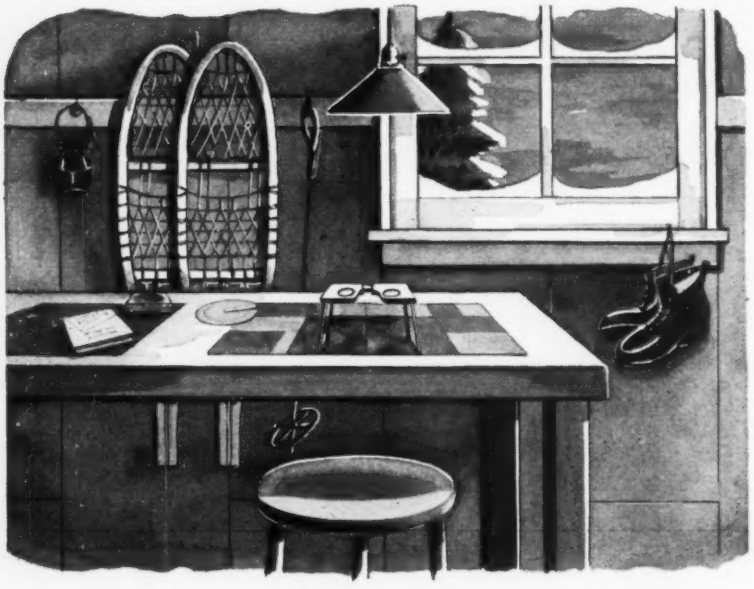


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They Still Covet

(*From page* 34)

the destruction of other values that a cut in permitted numbers would halt.

There is little question but that what the stockman clique wishes above all other consideration is to have a law enacted that will establish a "legal status" for grazing on these reservations. At present, grazing on forests is a *permissive* use—and it should remain so.

Their proposed legislation is smooth, the jokers in it glossed over neatly, their line of propaganda persuasive and filled with flag-waving "free enterprise" hoorah.

For them "free enterprise" concerns only their livestock business. The thousands of private businesses depending on other resources in the forests don't count.

The whole deal is the old Great Land Grab with a clever bit of face-lifting. The citizen-owners of our western public estate smashed the bare-faced proposal of a few years ago.

Are we going to let this highly-organized, lobbying, well-financed, determined, outfit inveigle Congress into passing this "Act" that, if anything, is more devious and damable than their earlier scheme?

It's time to write your representatives in Congress.

History of Saws

(*From page* 13)

called, stood above the log and worked the upper end of the saw, while the pitman stood below in the sawpit and worked the lower end. The saw was raked to cut in only one direction—in this case the downstroke. Thus the pitman did most of the work by pulling the saw down. (Most modern hand saws cut on both push and pull.)

The efficiency of saws grew with the ability to make better steels—but there were ways of making very effective tools out of rather indifferent steel. Usually the saws used to make boards in the Middle Ages consisted of a fairly thin blade held under tension in a big wooden framework about 5 feet long, very much as a hacksaw blade is held in place today. Later, when heavier, stronger blades were made, saws very similar to our modern two-handled saws were used.

(*Turn to page* 38)



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October 29, 30, 31, 1953

FOURTH AMERICAN FOREST CONGRESS

WASHINGTON, D. C.

History of Saws

(*From page* 36)

Long ago men worked on the problem of reducing the labor involved in making boards, and in 1322 in Germany, somebody first hitched a water-wheel to a saw. And at various times windmills were used, and so were teams of horses or oxen walking around in a circle and operating wooden gearing which made a saw blade move up and down. The blades used in these "sawmills" were almost exactly like those used in the sawpits—and the power came from below. The upper end of the saw worked free, in a slot.

The first water-powered sawmill in the U. S. was built in 1634 at the Piscatauqua Falls on the Maine-New Hampshire line. The first steam powered mill was built in New Orleans in 1803, but it was promptly burned down by the hand sawyers —the topmen and pitmen—who foresaw that they would lose their jobs if this kind of thing spread.

Some other dates: 1750, rolled steel, providing enormously improved blades; 1814, the circular saw was invented; and 1848, factories in the east began making saw blades regularly.

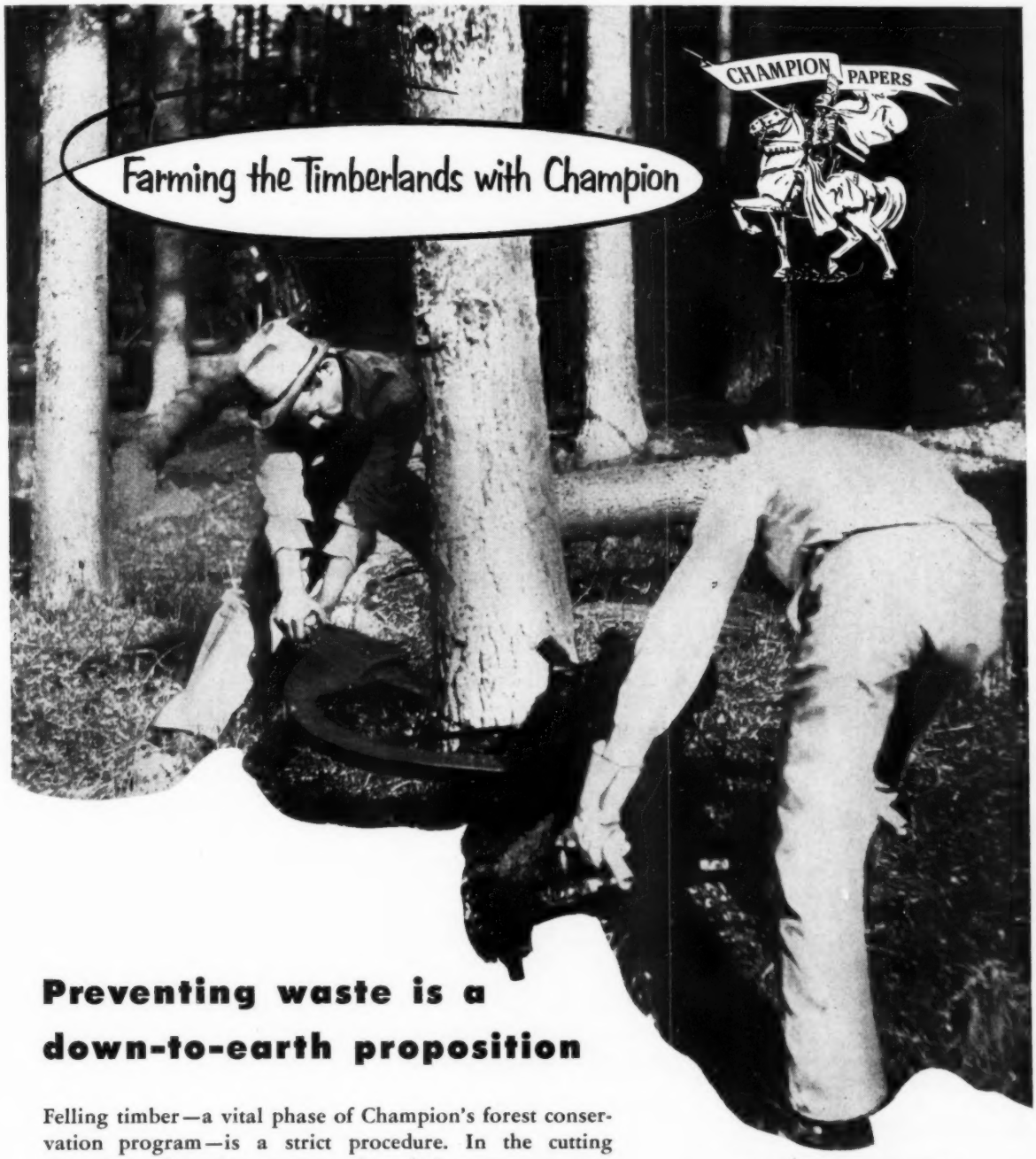
Wherever there were forests, the first thing settlers moving across the American continent built were sawmills—in order to have lumber with which to build towns. Some were run by water power and some by steam—and to do this many heavy, awkward steam boilers were dragged on skids up and down steep mountains. For a while the sawmill was the center of civic activity—and even after a town was built up it was as important an institution as the store or livery stable.

But in California in 1848 there was one sawmill which became better known than any in the world—although it only ran off and on for a few years and was then abandoned. On Jan. 24, 1848, just a few days before this mill was to be opened, men had been digging a channel, or race, for the water which would turn the wheel, when the owner wrote in the mill's log book, "this day some kind of mettle was found in the tail race that looks like gold."

It was gold, for this was Sutter's mill, and when the news of what these men had dug up with pocket knives reached the outside world, the California gold rush was on.

The single saw blade which moved up and down soon disap-

(*Turn to page* 40)



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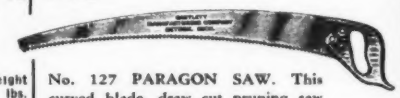
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3. Drown your campfire, then stir and drown again.
4. Ask about the law before burning grass, brush, fence rows, or trash.

History of Saws

(*From page* 38)

peared from sawmills in favor of the new circular saw—and a still newer invention, the band saw, a long strip of thin, flexible steel with saw teeth cut along one edge. Operated by steam or water power, either of these new saws could turn out more board feet of lumber in a day than a pair of old time sawyers sweating in a sawpit could cut in a lifetime.

Then came gang saws—6—8—10 saws mounted together to cut an entire log up into boards in a single operation—and mechanization had really taken over the sawing.

But the most startling thing that has happened to the power saw is that it has become portable. Today the market is filled with any number of small, light, electrically driven saws, many of which a man can hold in one hand—which will cut through fairly heavy timbers in a few seconds.

And out in the forest today, much of the work of cutting trees is done with one form of power saw or another. For small trees there is a gasoline driven saw mounted on a framework somewhat resembling a lawn mower. The circular saw blade works horizontally—the operator rolls his saw against the tree, and that's all there is to it.

For large trees there is the chain saw, also driven by a small gasoline engine, which operates a long chain equipped with heavy saw teeth. The chain travels around the rim of a small, light, portable framework, and as the chain saw cuts through the tree the whole framework passes into the kerf, just like the blade of a regular saw.

There are a hundred or more different kinds of small hand saws today, each designed to do some special job. It would be impossible to mention them all, but here are a few:

The keyhole saw has a long, thin, narrow blade, used to make holes larger than can be made with a drill —or irregular holes. *The coping saw*, something like a very small bucksaw, that is, it has a fine wire blade held in tension in a metal frame; *back or mitre box saw*, used for very fine cabinet work. Has small, slow cutting teeth; *buck saw*, a hand saw with big, coarse teeth for cutting up firewood; *one and two man heavy crosscut saws*, these long blades—there is a record of one 25 feet long—but four feet is more usual, have heavy "straggle" teeth which tear a log in two in very short order.

Heintzleman

(*From page 9*)

he sees it—"to promote the progressive, orderly development of Alaska and its people." A major factor in that development, Heintzleman believes, is to attract new industries to Alaska.

One of the first big steps in this direction is a new pulp mill, for which Heintzleman directed negotiations, that is now under construction near Ketchikan. Scheduled to go into production in July of next year, the mill is costing $46,000,000, all private capital, and will produce the highest grade pulp used in the manufacture of rayon and cellophane. Initially it will produce 350 tons a day, eventually 525 tons a day. The mill will provide 300 jobs to start with, 5000 in time.

Owned jointly by the Puget Sound Pulp and Timber Company of Bellingham, Washington and the American Viscose Corporation of Philadelphia, the plant will operate under a 50-year contract with the Forest Service. More than a billion and a half cubic feet of pulp timber, located largely on the northerly portion of Prince of Wales Island, is involved. The timber is about 75 percent hemlock, the balance mainly Sitka spruce. The mill's output will be shipped by rail to eight plants on the United States' Atlantic coast for manufacture into the finished product.

Attractive rates for the contracted timber carry with them provision for conservation of the area's natural resources. This includes cutting timber on a sustained-yield basis, safeguarding salmon spawning streams, prevention of pollution and preservation of significant scenic values.

While this new mill is only the first of four or five such installations that Alaska hopes to have established on the Tongass National Forest, Heintzleman thinks its salutary effort on the economy of the Ketchikan area will be immediate and considerable. He is especially concerned about the impending loss of defense industries in Alaska and feels that the territory, in order to stabilize its economy, must have industries of its own to take up the slack.

Along with pulp mills, Alaska hopes also to attract private capital for the building of newsprint plants. The Forest Service already has laid out a timber supply near Juneau suitable for the production of 900



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- Handles big, husky loads of lumber or logs. Can easily handle 12,000-15,000 lbs. or approximately 1,600 board foot loads.
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tons of newsprint a day for perpetunity, and preliminary contract negotiations are underway.

Utilizing timber from the Tongass National Forest in southeastern Alaska for newsprint production is the object of a bill introduced March 13 by Sen. Francis Case of South Dakota.

Sen. Case's bill proposes a privately owned and operated plant of 500 to 700-ton size. Under terms of the bill the private company would put up not less than 40% of the cost. The Reconstruction Finance Corporation would loan up to 60% of the cost, this to be repaid within 50 years or less.

The bill also provides that daily and weekly newspapers having circulations of fewer than 10,000 copies should receive preference in purchasing the newsprint produced by the plant.

In introducing the bill Sen. Case said: "It appears that, with the present high cost of newsprint manufacturing equipment, rapid tax amortization offered by the federal government provides insufficient inducement to potential newsprint manufacturers. A federal loan would help solve the problem of financing a newsprint plant and at the same time bring about the use and development of federally-owned timber resources."

Sen. Case said a newsprint plant built in Alaska under terms of his bill would increase production in the United States and its territories from 10 to 20 percent. At present domestic production runs to about a million tons a year. The United States, the largest newsprint-using nation in the world, currently depends on other nations, especially Canada, for five-sixths of its newsprint.

"What we are trying to do, and are rapidly doing," Heintzleman explains, "is to increase our industrial development in the form of year-around industries to supplement the seasonal industries that now characterize much of Alaskan activity."

If the physical stature (5 ft., 7 in.) of this man who will govern the land of soaring mountains and flamboyant scenery seems paradoxical, then his thinking certainly matches the broad sweep of Alaska's inland plateau. The industrial future he has in mind for his territory includes not only integrated forest industries to exploit the very extensive timber growth on Alaska's south

coast, but increased mining, recreation, hunting, fishing, agriculture, dairying and even tourist trade. He has a discernable determiniation to make Alaskan towns better places in which to live and new industries represent to him the best and fastest way of making the territory a "land of homes." Something very important to the governor.

Heintzleman is quick to recognize the vast potential of Alaska's abundant waterpower resources. He believes that the mining of strategic metals, tin, among others, is "very promising" and thinks the same is true of the mining of nonprecious metals. Coal mining, too, he has high hopes for. While coal is presently produced only for local consumption, Heintzleman sees a potential market in the Orient, especially Japan, a nation urgently in need of coal and one to which Alaska is in a favorable position to ship.

When the new governor talks about the recreation potential in Alaska he gets a genuine gleam in his eye. "The same people who hunt elephants in Africa and tigers in India come to Alaska to hunt the brown bear, the mountain goat and the rest of our big game," he says. Along with the big game hunters should come tourists, fishermen, and all manner of outdoor enthusiasts, he is convinced. He realizes the disadvantages inherent in Alaska's location, but is confident the airplane, one of his favorite modern contraptions, ultimately will mitigate, if not solve, that problem.

Heintzleman "goes everywhere" in an airplane and that very word seems to have had special significance in his life. It was "airplane spruce" production that first took him to Alaska and now the flying machine is changing the whole mode of living there. Alaska can boast the highest per capita use of planes in the world. Prospectors, carrying Geiger counters instead of placer pans, have forsaken the time-honored burro for the plane. Trappers use the plane to tend their far-flung trap lines. Alaska's countless lakes always provide a landing field for the pontoon-equipped planes common to Alaska, or as the governor puts it, "There's a landing field under you all the time. Why, we use planes just like you use taxis."

His long interest in agricultural research is reflected in his views on the future of Alaskan agriculture. He thinks that newly-developed, quick-maturing farm plants can be adapted to the country around An-

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chorage and Fairbanks, that dairying and beef cattle production can thrive on the peninsula and that the farming now being carried on in Alaska can be improved with the application of more scientific methods.

Petroleum production, for which exploration already is underway by the U. S. Navy and private oil companies, also is getting a fair share of Heintzleman's attention.

Heintzleman is not frantic about the fact that chances for immediate Alaskan statehood appear pretty dim. He explains that "it is the disposition in Congress to approach statehood progressively," but is not hesitant to point out that the territory is "fast reaching a condition where it can demonstrate to the satisfaction of Congress that it can maintain a modern state."

In Heintzleman's discussion of statehood one gets the impression he is less interested in formalized status for the territory than he is in the welfare of its inhabitants—128,000 by the 1950 census and 150,000 by Heintzleman's "unofficial estimate" for 1953. He has great feeling for the Alaskan natives and describes the Indians as "fine people" who are fast being integrated into Alaskan society. He makes the emphatic point that there are no "reservation Indians" in the territory. Another point he stresses is that Alaska has no racial minority problem, and he wants the situation to stay that way.

"While the majority lives from the sea, we have many Indian professional men—doctors and lawyers," the new governor explains. He says Indian children are being assimiliated, under guidance of the Bureau of Indian Affairs, into white schools and that the transition will be complete by about 1960.

"We mean to take care of the Indians, give them all-year work in timber and other industries. Right now their standard of living is good, just about like the white people, and like white people, some Indians are drunkards, but most are darn good people," the governor sums up.

This man who will govern one of Uncle Sam's most strategic possessions is not unduly perturbed about the international situation. He says that up in the Wales section of Alaska where "on a windy day you can practically spit across the Bering Strait into Siberia" you hear less talk about the hydrogen bomb in a month than you do in "a ride around the block in a New York or Washington taxi."

As seventh governor of Alaska since it was granted territorial sta-

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There are many members and friends of the Association who find it impractical to contribute to its educational activities during their lifetime. Gifts in the form of a bequest are welcomed. Officers of the Association will gladly consult at any time with those who wish to know more about designating gifts for educational work in forest conservation.

Following is a paragraph suitable for incorporation in wills:

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tus in 1912, Heintzleman will succeed Dr. Ernest Gruening, governor since 1939 and a man with whom Heintzleman has worked closely in territorial development. No politician, Heintzleman virtually was drafted for the job. He emerged as a compromise nominee after a number of the more active candidates decided none could get the necessary support and asked Heintzleman to settle the wrangle by taking the job himself.

A bachelor, Heintzleman will live alone in the 17-room governor's mansion in Juneau. A man who spends as little time as possible "socializing," he is somewhat concerned about finding an official hostess to whom he can delegate some of the social duties inherent in his new office. The suggestion that marriage would solve the problem brings an enigmatic wink and this comment from the governor, "You know I'd do almost anything for Alaska, but that's going just one step too far."

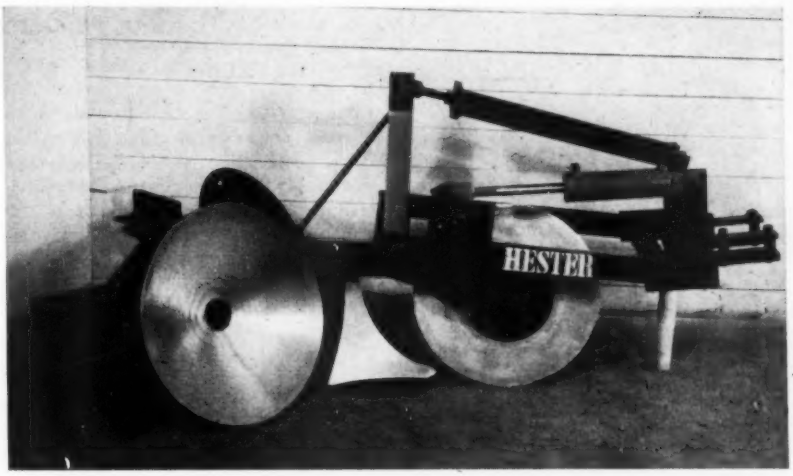
But Alaskans aren't worried. They know it is their good fortune to have this able and far-sighted man as governor.

Research Urged

A recommendation that the Agriculture Department give top priority to forest fire and forest insect and disease research was recently made by the department's Forest Research Advisory Committee headed by Gus P. Bachman, of Salt Lake City, Utah.

Because of the "enormous inroads being made on forests by insects and diseases, the need for expansion of research on the control and eradication of forest insects and diseases is urgent," Mr. Bachman said. "For example, we need to be able to identify the environmental conditions faforable to the development of epidemics, so that preventive measures can be taken," Mr. Bachman said, "To do this, it will be necessary to expand considerably the basic knowledge of the life history and ecology of many of the destructive organisms."

The committee also pointed out that forest land owners often have difficulty in recognizing the stages at which infestations should receive a particular treatment. It recommended further research to identify and appraise the existing hazards and the probability of epidemics.



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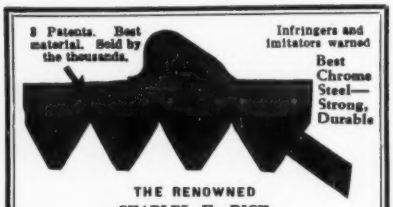
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Bodine's Comments on Resolution

(*From page 4*)

est Industries Council, representing the major forest products industries of the nation, has reaffirmed this policy of The American Forestry Association, and has repeatedly urged the policy of ". . . encouraging private ownership of lands which are being or can be profitably managed for continuous production of forest crops . . ."

The National Lumber Manufacturers Association says:

"To retain the maximum possible proportion of forest land in private tax-paying ownership is a sound national land policy. Only those lands which private ownership cannot keep productive should be taken into public ownership, primarily by the states, and secondarily by the federal government. We further believe it to be a sound national land policy to exchange public lands for private lands, in order to consolidate both public holdings and private holdings so as to improve forest management. We favor the transfer of public forest lands to private ownership and of federal land to state ownership where the public interest will be served; and the continuous review of the situation as to public ownership in each state by an agency representing federal, state and private interest."

Insofar as The American Forestry Association policy approved January 30, 1953, has this same objective, then it will have the support of the National Lumber Manufacturers Association.

Granger's Comments

(*From page 4*)

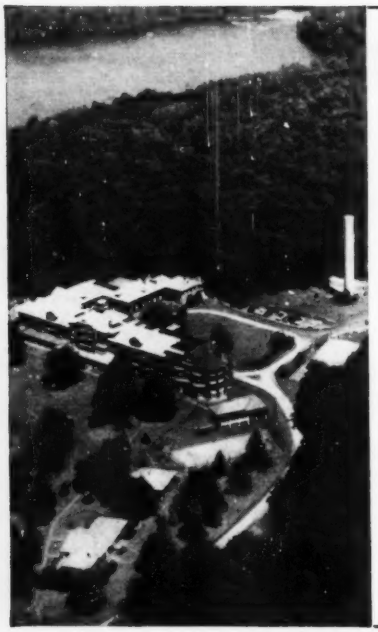
ously challenged on the floor of the American Forest Congress. Mr. Rosecrans, then president of the Association, met the criticism by saying:

I listened to a discussion from one of the speakers on the first day, who criticized one of the proposals of the Higgins Lake meeting, No. 12 I think, in which it referred to the words "disposal of public lands." And this gentleman, concluded that there was therefore an intention on the part of people to start a movement for disposal. Well, I happen to know in that particular case two or three men who were discussing that word and put it in because they were opposed personally to some proposed disposals of public land which had been introduced in Congress, from some of the western states. So, from that standpoint, the word was put in because the particular men who wanted it were opposed to disposal and not in favor of it.

And Mr. Corydon Wagner, a lumberman who appeared on a radio interview during the Congress said:

Mr. Watts' objection to a "custodial basis" has reference to a report of the Forest Resource Appraisal, and not to the actual recommendations presented to the Forest Congress. These recommendations proposed a thoroughgoing study of federal public lands of all types. Those who framed this recommendation hoped to prevent, not promote, the disposal of national forests.

The result of this discussion in the Congress was action by the di-


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rectors of The American Forestry Association to cut out the language about "disposal" and keeping public ownership of forest lands "fluid" and "of a custodial nature." Thus the adopted Program, ratified by a vote of the membership of The American Forestry Association, calls for a state-by-state study only to guide future acquisitions by public agencies.

I submit, therefore, that the present Board of Directors, in passing the resolution of January 30, adopted a position which had previously been specifically rejected by the Association. I doubt if they did this deliberately; rather it is likely they did not think through the implications of their action.

Now as to the second count: The resolution undoubtedly reflected apprehension on the part of the Directors over the already evident or imminent demands of some groups or individuals to turn the federal lands, in whole or in part, over to the states or private ownership. Conservation groups all over the nation are alarmed and alert to combat this threat. More than any time in the last quarter of a century is it necessary to take a resolute stand in defense of the integrity of such public institutions as the national forests. It is no time to let the camel of disposal get his head under the tent.

A group of timber men has proposed to the Secretary of Agriculture a similar state-by-state study, to guide both acquisition and *disposal* of national forest lands. They, too, deny any intent to break down the system of national forests. I have no reason to doubt their sincerity, but here again the potentialities of their proposal are gravely adverse. . . .

Even though these better forest lands might be well handled in private ownership, the result would be a ruthless gutting of the national forests. They would be shorn of a large part of their productive capacity. Existing plans of national forest sustained-yield management and the operation of active working circles would be wrecked. Dependent timber industries—especially small operators, and communities—might easily be seriously harmed.

Another thing: Congressional appropriation committees have shown a lively interest in the rise of national forest resources to the point where they exceed expenditures. Does anyone think Congress would be enthusiastic about appropriating adequate funds to protect and administer the remaining lands—most of them of high watershed value and serving other multiple-use purposes, if the bulk of the best revenue-producing lands were amputated from the national forests?

After all, the national forests contain less than 20 percent of the nation's commercial land; private owners have over 70 percent. There is still a tremendous job ahead of the private owner to get his entire forest house in order. Let him look to that and not cast covetous eyes on Uncle Sam's acres.

For several years, friends of The American Forestry Association have lamented the fact that the Association has lost much of its earlier prestige and respect because it has been "dead in the shell." Of late it has taken steps to recover its position of leadership in forest conservation. But, unhappily, many who wish it well and want to support it will, I fear, regard this resolution, by virtue of the last two words, as a step backward. Let us hope that further acts and utterances of the Association will assure all men of good will that the Association is adhering to the concepts of its founders.

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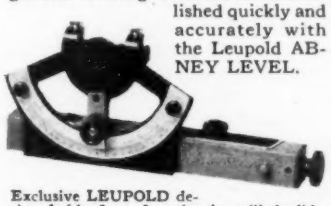


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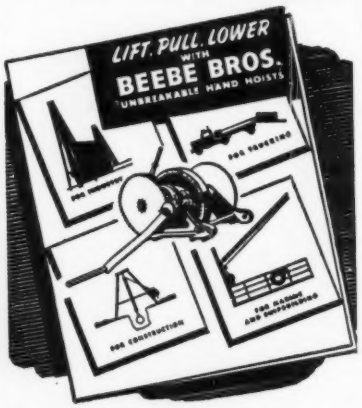
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Food for Thought

(*From page* 18)

from bamboo in 1951. Bamboo has good fibre dimensions; it grows rapidly and it produces a good quality of paper. In Burma, Pakistan, Indochina and the Philippines, commercial plantations growing bamboo already bring high financial returns.

Bamboo is a grass, as is esparto, which grows abundantly in northern Africa and in Spain. Esparto is shipped mostly to England and France for processing. Sabai is another grass. With two crops per year and a yield of about 3200 pounds per acre, sabai today contributes about 22 percent of the raw material for pulp production in India. Esparto and sabai are important locally—but that's about all. Along with the grasses, the use of straw, bagasse and bamboo can all make a contribution. None can meet the ever-growing need for paper.

The world demand for pulp is going to continue to rise in the coming years at a rate of about five percent a year. By 1960 the demand will reach—and it may exceed—54,000,000 tons, an increase of 20,000,000 tons over 1950. To satisfy this need it will take trees and forests. FAO has been looking at all kinds of trees in all kinds of places, seeking new forest sources for pulp.

One of the most promising future sources of pulpwood from tropical regions is from pine plantations. Australians, New Zealanders and South Africans have demonstrated the practicability of obtaining very rapid growth and high volume yields from planted exotic pines.

The world's largest man-made forest—Kaingaroa, in New Zealand—will shortly supply newsprint under a $30,000,000 project.

In the green region of selva sweeping back from the eastern slopes of the Andes, Peru sees a solution for its chronic shortage of newsprint in the wood of the cetico, a native tree which grows in weed-like profusion along the river banks of the Amazon, the Maranon and the Ucayali.

In his "Woods of Northern Peru," Llewellyn Williams says that the cetico (genus cecropia), although designated a hardwood, is really soft and not very heavy. It is one of the fastest growing pulp trees, growing more than 30 feet in three years. The trunk size is of 10-12 inches in diameter.

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Dr. Elmer G. Peterson, 1954—Utah, Utah Research and Development Foundation.

Robert W. Sawyer, 1954—Oregon, Editor, *The Bend Bulletin.*

Edward P. Stamm, 1953—Oregon, Logging Manager, Crown Zellerbach Corporation.

James J. Storrow, 1953—New Hampshire, Society for the Protection of New Hampshire Forests.

H. W. Voorhees, 1953—New Jersey, President, New Jersey Farm Bureau.

HONORARY VICE-PRESIDENTS

Ovid Butler—Maryland, Director Emeritus, The American Forestry Association.

E. J. Condon—Illinois, Public Relations Director, Sears-Roebuck Co.

James G. Eddy—Washington, Founder, Forest Genetics Research Foundation.

Ross Farrens—Florida, Farrens Tree Surgeons, Inc.

Stanley G. Fontanna—Dean, U. of Michigan School of Natural Resources.

George A. Garratt—Connecticut, Dean, School of Forestry, Yale University.

Christopher M. Granger—Maryland, Retired, U. S. Forest Service.

William B. Greeley—Washington, West Coast Lumbermen's Association.

Clyde S. Martin—Washington, Weyerhaeuser Timber Company.

Leslie A. Miller—Wyoming, Former Governor of Wyoming.

Fred Morrell—Virginia, Retired, U. S. Forest Service.

Joseph E. McCaffrey—South Carolina, International Paper Company.

Henry T. McKnight—Virginia, Forest Farmers Association Cooperative.

John McSweeney—Ohio, Former Member of Congress.

Randolph G. Pack—New York, President, Charles Lathrop Pack Forestry Foundation.

Lloyd E. Partain—Pennsylvania, Farm Market Director, *Country Gentleman.*

X. L. Pellicer—Florida, St. Augustine National Bank.

W. S. Rosecrans—California, Chairman, California State Board of Forestry.

A. R. Watzek—Oregon, Roaring River Tree Farm.

William P. Wharton—Massachusetts, President, National Parks Association.

Vertrees Young—Louisiana, Gaylord Container Corporation.

Palms, of which there are hundreds of species, are also being explored. Palm woods vary from soft and spongy to extremely hard and heavy, sometimes with a density greater than that of water. It is possible that certain species of palms can be grown for their wood just as others are now grown for oil, dates, and coconuts.

Hardwoods are not being ignored. Australia's pulp production of 136,000 tons is based almost 80 percent on hardwoods, while in the world as a whole only eight percent of wood pulp is made from hardwods. Certainly there are possibilities here. Eighty years ago, a raw material shortage forced the paper industry to discover and develop new resources, to use softwoods instead of rags as the chief source of pulp for paper. Today the search is on again to meet the ever-increasing pressure of world demand on the raw materials currently being used to produce pulp for paper. Plants, cotton lintners, roots, reeds, grasses, agricultural products and what-have-you are being tested.

Here in the United States, at Savannah, Georgia and at Lufkin, Texas, are factories which work for American, African, Indian, Finnish, Mexican and New Zealand manufacturers. They are searching for raw material sources—and included in their studies are palmetto, sugar cane, fibre, straw, bamboo, African bango and cotton stalks.

Around the world the search goes on—prodded always by the insistent need. When FAO, not long ago, offered to survey cellulose resources and help establish factories for pulping, 25 countries in the Far East and Mediterranean Europe replied, asking for missions to survey their potential capacities for producing paper and newsprint. FAO, as its work develops, gets to know more about the possibilities. They are not pessimistic. The world's forests, they say, are capable of supplying sufficient raw materials. It should be technically possible to achieve the necessary increase in production to meet prospective pulp and paper needs.

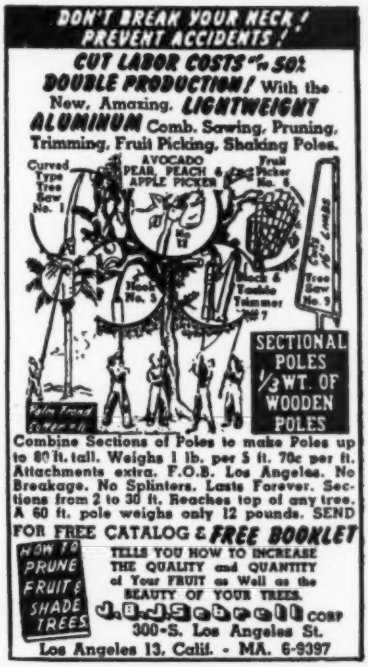
The traditional raw material for pulping is, of course, spruce wood which is concentrated in North America and Europe. These two main producing regions had an output of eight million tons in 1913; by 1950 their joint output had risen to just under 31 million tons.

A long time has passed since the scientist Reaumur observed that wasps made their nests from wood filaments that resembled paper. The "experts" were skeptical when he suggested that man, too, could make paper from wood. When Friedrich Gottlob Keller, a weaver from Saxony, discovered wood pulp in 1844, he proved Reaumur right. By 1854, collars, cuffs, and shirt fronts made of paper were on sale in New York. Ten years later, aprons, hats, carpets, casks, and floorings were being made of it. It was used to make coffins (but the Persians had thought of that idea long ago), houses, and at least a couple of churches; one in Oslo, the other in London.

Now there are 14,000 uses and with every child who learns to read, a new consumer for paper enters the market. It will indeed take every kind of conservation, ingenuity and inventive resource to keep abreast of this demand.

Only the other day, R. F. Taylor, a forester in charge of the Alaska Forestry Research Center, suggested that Iceland's forests, practically nonexistent after thousands of years of grazing and erosion, might be regrown with conifer seeds collected in Alaska.

Alaska thinks that could be done and Iceland wants it done. Who knows; one day a child in Basutoland in Africa will use a book, the seed of which was truly borne near Juneau, though the author lived in Paris.



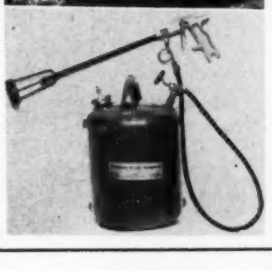
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Financial Statement

The American Forestry Association

BALANCE SHEET AS OF DECEMBER 31, 1952

ASSETS		LIABILITIES AND SURPLUS	
Cash	$ 41,495.58	Accounts Payable	$ 3,692.71
Accounts Receivable	2,070.89	Other Current Liabilities	1,098.01
Inventories	11,035.45	Due Endowment Fund Advance	16,594.33
Furniture and Fixtures	2,694.59	Deferred Income	55,746.77
Other Assets	799.53	Surplus	226,963.22
Endowment Fund Assets	245,999.00		
Total	$304,095.04	Total	$304,095.04

INCOME AND EXPENSE ACCOUNT FOR THE YEAR ENDING DECEMBER 31, 1952

EXPENSES		INCOME	
General Administration	$ 44,295.38	Membership Dues	$149,748.83
American Forests Magazine	76,185.78	Advertising	25,746.17
Forester's Office	7,190.82	Sales of Publications	6,306.27
Membership	49,660.77	Donations	3,310.33
		Trail Riders	4,626.95
Total	$177,332.75	Endowment Fund Income	17,638.72
Excess of Income Over Expenses	30,044.52		
Total	$207,377.27	Total	$207,377.27

PROJECTS

INCOME AND EXPENSE ACCOUNT FOR THE YEAR ENDING DECEMBER 31, 1952

Expenses	$ 14,143.38	Income (Donations)	$ 14,592.95
Excess of Income Over Expenses	449.57		
Total	$ 14,592.95	Total	$ 14,592.95

In our opinion the above condensed Balance Sheet and Income and Expense Account, fairly present, respectively, the financial condition of The American Forestry Association at December 31, 1952, and the results of its operations for the year ended on that date.

SNYDER, FARR AND COMPANY
Certified Public Accountants

AFA's Forest Clinic

(*From page* 19)

in diameter on the needles. Feeding punctures and oviposition niches on the stems and twigs are characterized by the formation of drops of pitch around the affected areas. Some injury may result from heavy feeding by the adults on the needles and outer bark, but serious damage and death to the tree are caused by the feeding of the larvae in the phloem and cambium region, which cuts off the translocation of food materials. Fading of the foliage is not usually apparent until late in September, and even though some trees may be killed, they will not fade until early the following spring.

Control: This insect has several parasitic and predaceous enemies, but they seem to be incapable of keeping it in check.

Indications are that available soil moisture is a very important factor in regulating the abundance or scarcity of this weevil. Practically all the serious epidemics in planted areas have been associated with years when soil moisture has been deficient during the spring of the year preceding outbreaks. Intense competition with brush cover for moisture apparently is associated with intensity of damage. Damage on shallow rock outcrops has been found to be greater than in areas where soil depth is adequate.

Recent work at the Institute of Forest Genetics indicates that one of the most promising methods of indirect control may be the development and planting of species and species hybrids that show a high degree of resistance to injury by the weevil.

This insect can be successfully controlled in large planted areas at a cost of about $1.25 per acre through the aerial application of one pound of DDT per acre about the middle of June. The formula to use consists of one pound of DDT dissolved in one quart of an auxiliary solvent plus enough Diesel oil to make one gallon of solution.

Ornamentals or small plantations can be successfully sprayed with hand equipment. The sprayer should be capable of producing a fine mist with the same formula. Too heavy an application will cause burning of the foliage.

In small areas the weevil population can be reduced through the digging and burning of all infested material by about June 1.

Conservation Camporee

(*From page* 15)

As each group arrived at the planting site, instruction was given in the technique of hand planting. Then Scouts were organized into teams of three. They were lined up across the field and shown lines along which they were to plant, each line being marked with poles. One boy of the team carried the seedlings, the second carried the dibble and made the holes, and the third dropped the seedlings in the hole and tamped the earth around the roots.

After planting a dozen trees, the boys within a team rotated jobs so that none would get tired and all would have experience in each phase of the project.

Scouts were told that these seedlings should produce a cash crop in 12 to 15 years when the first one or two thinnings could be sold for pulp or fence posts. These, and the next thinnings would reduce the plantation to a stand which would be the maximum that the land would support.

At the woodland management station, Scouts saw a quarter acre marked for an improvement cutting. Each tree was labeled telling why it should be cut or why it should be left to put on more growth.

In this area, Scouts were shown how foresters determine the rate of growth and how they determine which trees to cut. Each Scout had the opportunity to use an increment borer and to estimate growth rate and volume. Instruction was given in measuring diameter, height and number of logs. Then Scouts measured the DBH, height and determined volume of five trees and checked their results against a master card.

One of the more interesting aspects of the woodlot management demonstration was that phase concerned with what to do about undesirable hardwoods that should be removed. These weed trees were growing in both the new pine plantation and the managed pine woods.

It was decided that these trees might well be poisoned and left to season on the stump. Thus Scouts have a long-lasting supply of fuel for cooking fires, logs for ax practice and poles for campcraft use.

Since too many people in that section of the south minimize in their own minds the damage caused by woods fires, Scouts were shown what happens when a pine woods is burned over. They counted the young seedlings growing in a 20-foot square, and this called for a hands-and-knees coverage of the area and a pawing aside of duff to find the tiny seedlings. The particular area had been burned over in years past, with the result that the stand consisted only of 20 to 30 year old pines. This was contrasted with another stand of mixed aged pines—from seedling to five-year old trees to 30-year olds.

The conservation plan for the campsite called for the construction of new fire breaks to protect the old as well as the new plantings, and these were built with power equipment (tractor and plow) sent in by the State Forestry Commission. This same equipment was used to plow a double line around a circle with a 100-foot diameter—that area to be used for the demonstration of woods fire control when the woods finally dry out after the torrential downpour on the day of the camporee.

This conservation education camp was a unique and understanding experience for the boys who took part. But more interesting perhaps, was the cooperation of the community as a whole that made it possible. And that spirit of cooperation speaks well for the future of the conservation movement in America.

ESTIMATE and KNOW
YOUR OWN TIMBER

Lumber scale, International, Quebec, Scribner log rules for all species and Form classes 70 to 82. Cords, units, cubic feet for trees 30 to 90 feet tall. Growth predictions, basal area and log scaling. All with one B10 Tree Stick delivered for $3.00 by

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PRUNING FOR PROFIT

Bartlett Mfg. Co. now have a new item to offer in the M-414 MEYLAN PRUNING SAW which consists of the use of an axe handle with the Bartlett No. 44 Pole Saw Head except that a special blade of heavier tool steel is used and can be furnished in either 16" or 18" length. The axe handle, which is especially made for this saw is properly tapered to fit the head and is 36" long.



Because the Meylan Saw will enable a man of average height to prune 9½ ft. from the ground, it has made a saving in pruning coniferous plantations as great as 25%.

The Saws are available for prompt shipment, delivered to any address in U.S.A. at the following prices.

M-414 Meylan Saw, complete with 16" blade..... $11.60

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Managing Your Woodland

(*From page* 22)

fits result from pruning. The stands and plantations are opened up, making inspection easier. The cost of marking, felling, and removing thinnings is lessened. The risks from fire are reduced. Healthier conditions result because of increased air circulation. The soil is improved by the earlier addition to the humus of the quickly rotting twigs and branches, and this helps to speed up tree growth. Pulpwood, mine props, posts, and poles are more easily and cheaply peeled because of the absence of knots and stubs. The University of Illinois Agricultural Experiment Station reports that "treated fence posts obtained from trees previously pruned sold for ten cents each more than posts from unpruned trees."

Woodland owners might well emulate the work of foresters Ralph W. Lorenz and Howard W. Fox of the University of Illinois Agricultural Experiment Station. These enterprising researchers liquidated the entire cost of pruning every tree in an eight-year old red pine plantation by selling the boughs for Christmas greens. In addition, their studies indicate potential profits of over $150 per acre from this operation.

One of the tools which show promise of cutting costs and speeding up pruning is the Meylan pruning saw developed by Gustave J. Meylan of Cortland, New York. This tool has a 16-inch, eight-point curved blade, mounted on a single-bit ax handle, and is made by the Bartlett Manufacturing Company of Detroit, Michigan. The saw is light in weight and is used in either or both hands. This is an unusually handy and promising pruning tool.

With the Meylan saw the worker can easily reach to the base of a tree without stooping. He doesn't have to fight his way into a dense tangle of branches.

An average-size man can prune to a height of about nine and a half feet without stretching. This greatly increases his efficiency and, according to David B. Cook of the New York Conservation Department, should help reduce the cost of low pruning in coniferous plantations by 15 to 25 percent. Branches one inch in thickness can often be severed with one pull of the saw.

The New York State Employees' Merit of Award Board granted Mr. Meylan a Certificate of Meritorious Service for his work in developing this tool.

A second tool, currently unknown in the United States, is designed for higher pruning. This pruner was developed by Captain G. C. Wolryche-Whitmore of Bridgenorth, England. The tool is being used in an ever-increasing number of coniferous plantations in that country.

This tool is a two-pound chisel securely fastened to poles varying in length from three to ten feet. The chisel and the shank are slightly angled so that the tool slides snugly up the tree with the worker's hands a foot or so away from the trunk.

The Whitemore chisel has three cutting edges: top, bottom and left side. Most branches are easily chiseled off with one upward thrust. If, however, the limb is not severed on the first pass, the tool is reversed and the lower edge of the chisel is pulled down sharply on the top of the branch. This produces a close and neat cut.

The chisel is designed for small live branches on trees four to six inches in diameter at breast height. On some species the Whitmore chisel has no equal. The tool, however, is too new to this country to give a full account of its usefulness on our many tree species.

A steady upward stroke of from 18 to 20 inches is far better than short, quick jabs. The hands should move from the waist to the chin. Any movement higher than this is very tiring and ineffective. Goggles or a piece of veil hung from the brim of a wide hat will help protect the face from falling debris and heavier limbs.

In the words of Captain Whitmore, "whatever the rotation, all branches must be cut off by someone sooner or later, and it seems far more sensible to cut them off when they offer the least resistance, and at a time when the maximum benefit will be obtained." To this, this writer can add little except to quote in part, a favorite passage from the Old Testament, "To everything there is a season and a time . . . A time to be born, and a time to die . . . A time to embrace, and a time to refrain from embracing . . . A time to get, and a time to lose."

And so, too, there is a season and a time to prune trees. That time is when the branches are small. Let us each, then, if we would prove to be skillful planters, be early at this task.



NINETEEN MILLION SEEDLINGS SET OUT BY GAYLORD CONTAINER Corporation at Bogalusa, Louisiana this spring is believed to be a new world's record. All told, Gaylord has planted 70,000 acres in recent years, has a plantation of pines that totals 420,000 acres. One of the most beautiful in the world, it is under multiple-use management. Asked to comment on the new planting record this year, Vertrees Young, executive vice president, puffed meditatively on his pipe a moment and then replied, "Well, the nurseries had the stock so we just kept on going . . ."

GAYLORD'S CONSERVATION FORESTERS—"CONSERVATION" TO distinguish them from the foresters who manage the company plantations—today are going out and marking timber for thinnings on woodlands owned by farmers and other small owners. Foresters on Earl Porter's International Paper Company plant at Mobile are doing the same thing. This service was the subject of a panel discussion at the recent annual meeting of the Southern Pulpwood Conservation Association at Atlanta. At that time, Henry J. Malsberger, forester for the association, reported that the most significant advance made in the south in 1952 was in providing forestry services to landowners. Panelists who described the work their firms were doing along this line were Al Herrington, Southern Kraft Division, International; D. V. Willett, Gulf States Paper Company; E. A. Hall, Container Corporation of America; and Ben L.Allen, Camp Manufacturing Company.

ANOTHER DEVELOPMENT AT GAYLORD THAT IS ACHIEVING good results under Frank Heyward, Jr., public relations director, are the tours on Saturdays for students and other interested groups. On March 7, 70 teachers from New Orleans were entertained. After going through the mill they were escorted out to the plantation by Heyward, Joe Greenburg and Mrs. T. V. Talley, all on the PR staff, and Forester Paul DeLongue. After a luncheon of fried chicken and potato salad the teachers inspected a 27-year-old pine plantation from which three cuts have already been taken.

HEYWARD, DeLONGUE AND RANGER J. D. McCAIN, of the state forestry organization, told the history of the plantation, how fire towers pinpoint fires by triangulation, gave a demonstration on how to make a fire break, and showed how fire-fighting units on the ground communicate and work with the spotter airplane that zoomed over the plantation as the teachers watched. When the visitors were shown where one firebug had set 60 different fires in one night, the teachers waxed indignant and launched into a spirited discussion on how the courts might get more convictions. Bus drivers who brought the teachers from New Orleans joined in. How could they help? Tell their students (and the bus drivers their passengers) what they had seen, Heyward replied.

THE TEACHERS WERE A SPIRITED GROUP BUT HEYWWARD and Greenberg said if a visitor wants to see real spirit and enthusiasm he should attend one of the demonstrations for colored boys and girls. The youngsters are permitted to touch off the fire demonstration and then are sent to report the fire to Gaylord mobile-protection units. Both fleet and loud, when they report they do so with enthusiasm. These events can easily be heard in nearby Bogalusa. In all, around 1500 visitors are entertained at Gaylord every year.

(over)

WHAT'S NEWS ACROSS THE NATION—(Continued)

ANOTHER LIVELY EVENT OF MARCH 5 AND 6 was the Southern Forestry Conference of the Forest Farmers Association at Pensacola, Florida. One of the best talks—"A Good Neighbor Policy For the Lumber Industry"—was by R. C. Allen, chief forester for the DeWeese Lumber Company, Philadelphia, Mississippi. He told how his firm had brought 60 woodland owners into the Tree Farm family. Operating under a verbal agreement, the company manages these holdings in return for their crops of trees which are paid for at the going price.

RESEARCH CAME IN FOR PLENTY OF ATTENTION at the Pensacola meeting. Dr. V. L. Harper, Forest Service assistant chief; Joseph Kowal, of the Entomology Bureau at Gulfport, Mississippi; both presented papers. Dr. Reavis Sproull, of the reactivated Herty Foundation Laboratory, at Savannah, Georgia, told some 250 forest farmers that treetops, sawdust and slabs now being wasted or used for firewood in the south can be converted into valuable products through chemistry and processing into fibers. Waste material that brings about $5 a ton as firewood can be upgraded to a value of $75 a ton when used as newsprint, Dr. Sproull said. And converted into fiber, it can furnish about $2500 worth of clothing. In the taking of about 600 million dollars' worth of forest products from Georgia's 21 million acres of forest land, about 500 million dollars of potentially valuable timber is now lost as waste, the scientist said.

HOW THE TRAVELERS INSURANCE COMPANY is now making long-term timber loans on well-managed timber tracts was described at Pensacola by W. T. Sanders, of the Orlando, Florida, office of the firm. Travelers pioneered in this new field, starting about two years ago. Today, two other insurance firms, Prudential and the Equitable Assurance Society of America are making such loans. Equitable now has a full-time forester making appraisals. Travelers, Mr. Sanders said, prefers to make use of forestry consultants in areas where loans are being contemplated.

SPEAKING OF PIONEERING, THE OREGON BANKERS ASSOCIATION and the Western Forestry and Conservation Association did some of it last month when leaders of the two organizations, together with other interested groups, arranged a conference with the acting Comptroller of the Currency regarding the possibility of relaxing the present ruling which lumps all timberland in the "unimproved real estate" category. This prohibits national banks from making loans on holdings so classified.

MARSHALL N. DANA, OF THE UNITED STATES NATIONAL BANK, Portland Oregon, and Stuart Moir, forest counsel for the forestry organization, who took the initiative in arranging the conference, explained that well-managed timber that produces cash crops every few years should not be labeled "unimproved." Others who participated in the discussion were Carroll Gunderson, of the American Bankers Association, Harry S. Mosebrook, of the United States Chamber of Commerce, and Harold Say, manager of the Washington Bureau of the Portland Chamber of Commerce.

THE PRESENT RULING WAS MADE BY THE COMPTROLLER in 1948 and states "standing timber ordinarily constitutes real estate, and since neither timberland nor timber is rated as improved real estate, loans secured thereby are not permitted by Section 24" (of the Federal Reserve Act). If the present ruling is relaxed statutory changes will be required. While the matter is still in the preliminary stage, there is a possibility that a change may be made in the ruling—with adequate safeguards provided as regards length of loans and other considerations.

CIVIC AND BUSINESS LEADERS OF PEARL COUNTY, MISSISSIPPI, have posted a $500 reward for arrest of the person who set a devastating fire that consumed 20,000 acres early in February, the Southern Pine Association announced. As a result of the fire, L. O. Crosby, Jr., has discontinued all planting work by his Crosby Forest Products Company at Picayune. The fire consumed all 20,000 acres planted by the company in the last decade. It would take at least $300,000 to replant the burned area, Crosby said.

The Louisiana Story

(*From page* 26)

isiana State University and the public. This was followed by a $12,000 grant to the Forestry Division.

Forbes charted his needs in this order: fire patrol, railroad fire prevention and publicity and education. He proposed that those sections of the state most in need of protection be divided into districts of 500,000 acres, and that during the spring and fall fire seasons a patrolman be assigned to each. He further proposed that regulations governing the use of spark arrestors on locomotives be strictly enforced.

In 1920, the legislature increased the forestry appropriation from $12,000 to $60,000 a year.

Meanwhile, important developments were in process at Bogalusa. Officials of Great Southern, obviously after a long look into the future, had established a kraft paper mill—the Bogalusa Paper Company. Then from St. Louis came the Gaylord Box Company to erect a half-million dollar plant. Thus, when in 1938 the last log was cut in the Great Southern mill, a merging of Great Southern and Gaylord interests resulted in the present Gaylord Container Corporation.

Just as the passing of the Great Southern mill marked the end of an era in Louisiana, this merger represented the first page of forestry's modern history in the state. And because it did, progress hardly skipped a beat. Under the guidance of Vertrees Young, Gaylord's executive vice president and general manager, the tree planting program started by Colonel Sullivan is nearing its goal of 100,000 acres, and the corporation's 425,000 acres of timberland have a record of good management.

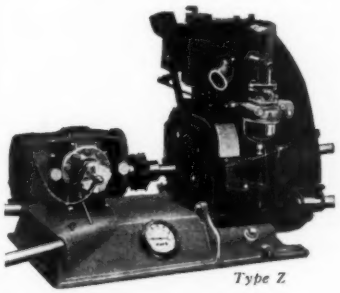
This, however, is a long haul from 1920 when Louisiana's first state forester was struggling under the responsibilities of a suddenly expanded program. But it was a productive struggle, for when Forbes resigned in 1921 to become director of the Southern Forestry Experiment Station at New Orleans, he could look back on a period of real accomplishment, years during which the most difficult strides were made in bringing to Louisiana a sound and sensible program of forestry.

(The Louisiana state story will be concluded next month.)

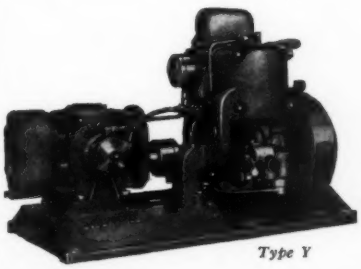
Pacific Pumpers Built 30 Years Ago Still Giving Good Service

Earliest models, as well as famous Type Y Pacific Pumpers continue to be popular and serviceable many years after introduction . . .

BACK IN 1923, the first Pacific Pumper was introduced. At that time, the use of an efficient pump light enough to be carried by hand into rugged terrain yet powerful enough to deliver an effective flow of water for combating forest blazes was a startling innovation. Many of the early Pacific Pumpers are still in service and are still the standby of fire fighters . . . mute testimony to the dependability and stamina built into all Pacific Pumpers, from the first model to those of the present. Such a record could be achieved only because Pacific Pumper continues to supply parts for even the earliest models.



Type Z



Type Y

Then came the most powerful unit ever built for its weight and size, the famous Type Y Pacific Pumper. Embodying the improvements made possible by years of engineering research and thousands of practical field tests, the Type Y Pumper quickly won the approval of fire fighters and fire fighting authorities. Still available and still the favorite of many of the nation's experienced fire fighters, the Type Y Pacific Pumper was designed for the hardest forest fire control work . . . and has also been found ideal for fire protection in communities, resorts, on estates; for protecting right of ways, bridges, trestles, snow sheds and other types of property.

For the Type NY, widely known as the Navy's "Handy Billy" during World War II, parts are kept in stock in answer to the needs of civilian users.



Model 5-A

During the post-war years, the new models of Pacific Pumper have become even lighter, more compact and durable and more versatile for a variety of purposes. At the request of fire fighters for an efficient unit for air transport, the Pacific Pumper, Model 5-A, was introduced. Weighing only 38 pounds, Model 5-A embodies maximum portability on foot, by truck or by air. Proved in use by public and private forest fire protection agencies, Model 5-A offers the choice of two pumps for volume up to 32 g.p.m. or for pressure up to 275 p.s.i.

Write for illustrations and data on the complete line of Pacific Pumpers, hose and accessories.

PACIFIC MARINE SUPPLY CO.

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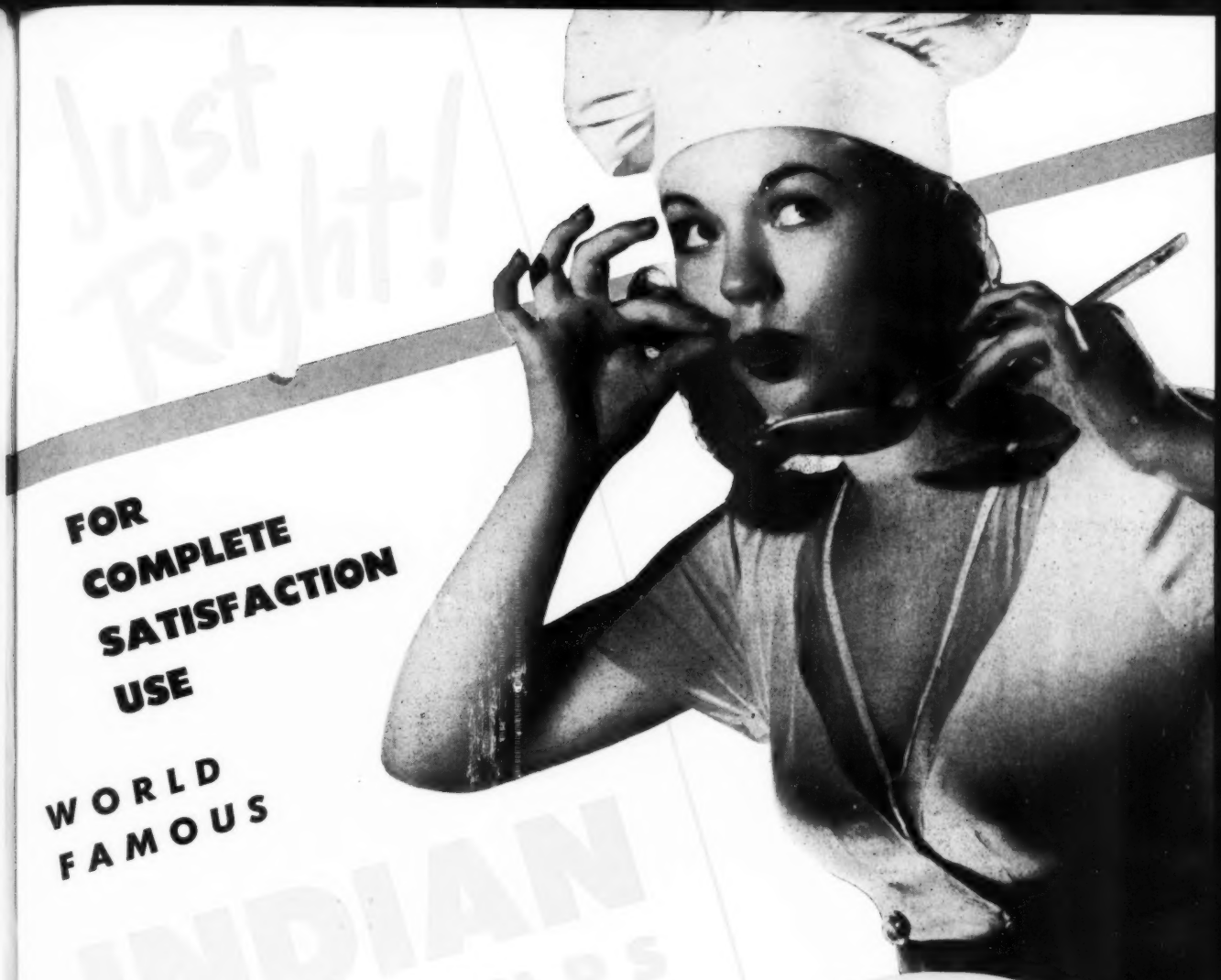
FIRE EQUIPMENT DIVISION

Feature Photo of the Month

Photos used on this page will be of unusual rather than esthetic qualities and subject matter will be restricted to scenes, events, objects or persons related to the use, enjoyment or unique aspects of our renewable natural resources. For each picture selected AMERICAN FORESTS *will pay $10.*



The ravage of Webster Street. This is what outraged residents of Monterey California saw one morning recently. Thirty beautiful 20-year-old plane trees leveled by the city after property owners objected to "raking up the leaves." Photo was submitted by Consulting Forester Abbott Silva, Carmel



FOR COMPLETE SATISFACTION USE

WORLD FAMOUS

INDIAN FIRE PUMPS

The first cost is the last cost. No upkeep expense. No chemicals to buy. Only clear water used. That's why so many fire departments are replacing soda acid and other types of extinguishers with INDIANS. Here's a typical comment from our files:

"We consider Indian Fire Pumps one of the most important pieces of equipment in our company. Just two days ago we saved a Dry Goods store and several other buildings with small water damage by using Indians. Indians play a large part in extinguishing many of our fires and we intend to get more in the near future."

J. S. Williams

SEND FOR NEW INDIAN FIRE PUMP CATALOG



D. B. SMITH & CO. **405 MAIN ST. UTICA 2, N. Y.**

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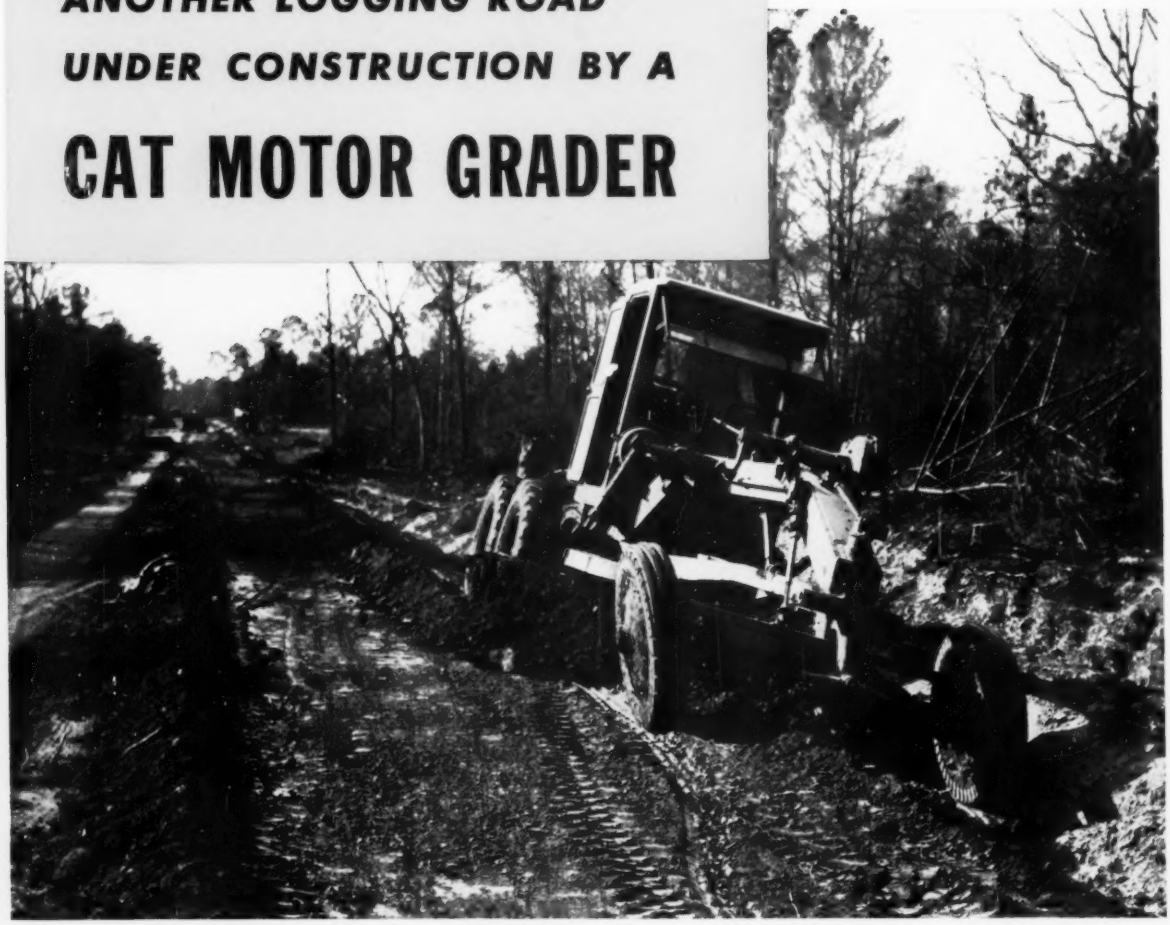
CANADIAN AGENTS:

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ANOTHER LOGGING ROAD UNDER CONSTRUCTION BY A

CAT MOTOR GRADER



This Caterpillar No. 112 Motor Grader is ditching a stretch near Georgetown, S. C. On its own, it averaged a mile of completed road a week. Teamed with 'dozer and dragline, it often averaged 3 miles per week. The road was constructed for trucks carrying 8 to 10 and even 20 tons of pulpwood per load.

Notice the position of the blade. In less than a minute, without leaving the platform and without changing blade lift or side shift links, the operator can move it into ordinary bank sloping position. And he can change it just as quickly from a wide side reach handling windrows outside the wheels, to cut a flat bottom ditch in any width. All-Caterpillar manufactured, the No. 112's weight, power and speed are precisely balanced for smoother operation. Controls are accurate, dependable. And visibility is excellent — another time-saving asset for the many jobs this versatile grader can do.

This road is just one of thousands constructed and maintained by Cat Motor Graders. Of all that have been built, more than 9 out of 10 of these rugged yellow machines are still on the job, saving money for their owners with performance no other make can match. A strong statement? Sure — and a demonstration will back it up!

Ask your Caterpillar Dealer to put a No. 112 through its paces. You'll see why it's good business to add this hard worker to your line-up!

CATERPILLAR, PEORIA, ILLINOIS

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